## **EPA REGISTRATION 84059-14**

## PROCESSING REQUEST

Reg #84059-14	Decision #509594				
Description: Label Amendment					
Electronic Label & Letter (see PPLS):	Non Electronic Label & Letter (Scanning required):				
■ Dated: October 1, 2015	☐ Dated:				
***Only one label typ  Other Materials Sent (see j  New CSF(s) Dated:	e should be selected***  acket):				
Other:					
File this coversheet and attached materials and clipped together, NOT STAPLED. Ther materials to staff in the Information Servic jacket is full or only available as an image, bring it down to the (ISC). For further info	n give the jacket with the coversheet and ces Center (ISC) (Room S-4900). If a , please file materials in a new jacket and				
Reviewer: Michael Glikes					
Division: Biopesticides and Pollution Prevention Division					
Phone: (703)305-6231	Date: 10/2/2015				

## PROCESSING REQUEST



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

October 1, 2015

Keith Pitts Vice President, Regulatory Affairs Marrone Bio Innovations 1540 Drew Avenue Davis, CA 95618

Subject:

Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment

- Revised Agricultural Use Requirements and Addition of Nematicide Sublabel

Product Name: MBI-206

EPA Registration Number: 84059-14

Application Dates: August 12, 2015, September 30, 2015

OPP Decision Number: 508402 New OPP Decision Number: 509594

#### Dear Mr. Pitts:

In an application dated August 12, 2015 (OPP Decision No. 508402), you notified the U.S. Environmental Protection Agency (EPA) that you added a nematicide sublabel and statements to the Agricultural Use Requirements section on the MBI-206 product label. Subsequently, the EPA determined that the action requested did not fall under the scope of Pesticide Registration Notice 98-10 and therefore converted the notification to a minor label amendment (OPP Decision No. 509594).

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable.

This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR § 152.3.

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Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact Michael Glikes of my team by phone at (703)305-6231 or via email at glikes.michael@epa.gov.

Sincerely,

Shannon Borges, Team Leader Microbial Pesticides Branch Biopesticides and Pollution Prevention Division (7511P) Office of Pesticide Programs

Enclosure

## **MBI-206 EP**

# (Alternate Names: VENERATE, VENERATE XC, VENERATE PTO, CEREBIUS, SENTINAS, NEMORAX, MAJESTENE, EVATE)

**MASTER LABEL, containing:** 

**Sublabel A: Agricultural Crop Use** 

Sublabel B: Greenhouse, Nursery, Turf &

**Professional Landscape Use** 

Sublabel C: Nematicide Use

Sublabel D: Home & Garden Use

**Optional Label Claims** 

EPA Reg. No.: 84059-14

Manufactured by: Marrone Bio Innovations, Inc.

1540 Drew Ave.

Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

### ACCEPTED

10/01/2015

Under the Federal Insecticide, Fungicide and Rodenlicide Act as amended, for the pesticide registered under EPA Reg. No. 2005 2014

<sup>1. №0.</sup> 84059-14

## **Sublabel A: Agricultural Crop Use**

## **MBI-206 EP**

### (Alternate Names: VENERATE, VENERATE XC)

#### **BIOLOGICAL INSECTICIDE**

(Can Be Used in Organic Production) (For Organic Production)(OMRI Placeholder)

Active Ingredient: Heat-killed Burkholderia spp. strain A396 cells and spent

fermentation media ......94.46%

 Other ingredients:
 5.54%

 Total:
 100.00%

\*Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. <u>Note</u>: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

## KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID				
<ul> <li>Hold eye open and rinse slowly and gently with water for 15–20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue r</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>				
	HOT LINE NUMBER			
Have the pro	oduct container or label with you when calling a poison control center or doctor, or going for			

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14 Net Contents: XX (Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc.

1540 Drew Ave. Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

US Patents No. XXXXX

XXXX® is a registered trademark of Marrone Bio Innovations, Inc.

Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

**EPA Est. No.: XXXXX-XX-XXX** 

#### PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, and protective eyewear. Mixers / loaders and applicators must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS:** When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handing this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, *including those used in Integrated Pest Management (IPM) programs or organic agriculture.* 

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

#### **Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water), is:

- Protective eyewear
- Coveralls
- Chemical resistant gloves (made from any waterproof material)
- Shoes plus socks

**EXCEPTION:** If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

#### PRODUCT INFORMATION

MBI-206 EP is a biological insecticide containing killed cells of *Burkholderia spp.* strain A396 and spent fermentation media, for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect pests by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional insecticide spraying.

MBI-206 EP can be used in either the field or greenhouse for the control of any labeled pest.

#### GENERAL USE INSTRUCTIONS - FOR INSECT CONTROL

MBI-206 EP is an insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae, nymphs or immature pests is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. For some crops, directed drop nozzles by ground machine are required.

Under heavy pest populations, use the higher label rates, shorten the spray interval, increase the spray volume to improve coverage, and/or apply in tank mixture with another product that has activity on the target pest.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

The use of adjuvants with MBI-206 is not recommended, except to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed crop canopy, dense foliage and penetration into waxy leaf surfaces.

Bees and beneficial insects-:

- To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.
- Do not allow product to drift to blooming crops or weeds if bees are foraging.

Minimize spray drift away from the target area to reduce effects to other non-target insects.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. Prior to treating entire crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

MBI-206 EP has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

#### **GROUND AND AERIAL APPLICATION**

Apply MBI-206 EP in ground and aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

#### Mixing directions

Important –Fill tank ½ to ¾ of desired amount of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-206 EP. Add the desired volume of MBI-206 EP to the mix tank and the remaining volume of water and continue circulation. Maintain circulation while loading and spraying. Do not mix more MBI-206 EP than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

#### Tank mixing

Do not combine MBI-206 EP in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables second, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can readily be remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

#### **Row Crop Application**

Use calibrated power-operated ground equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. A minimum of 10 gallons per acre by ground or 5 gallons by aerial application should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, disc core/hollow cone or twin jet flat fan nozzles suitable for insecticide spraying. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and

spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition to reduce drift.

#### **Orchard Spraying**

- Dilute spray application: This application method is based on the premise that all plant parts are thoroughly wetted, to the point of runoff, with spray solution. To determine the number of gallons of dilute spray per acre, contact your extension specialist, state agricultural experiment station, or certified pest control advisor for assistance.
- Concentrate spray application: This application method is based on the premise that all plant
  parts are uniformly covered with spray solution but not to the point of runoff as with a dilute
  spray. Instead, a lower spray volume is used to deliver the same application rate of product per
  acre as is used for the dilute spray.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

#### AERIAL APPLICATION AND DRIFT REDUCTION ADVISORY INFORMATION

**General:** Apply in a spray volume of 5 or more gallons per acre on row crops and 10 or more gallons per acre on tree or orchard crops. Insect control by aerial application may be less than control by ground application because of reduced coverage.

**Spray drift**: Avoiding spray drift at the application site is the responsibility of the applicator. The Interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

**Information on droplet size**: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that will provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling droplet size: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Number of nozzles - Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Use low-drift nozzles, such as solid stream nozzles that are oriented straight back to produce the largest droplets and the lowest drift.

**Boom width**: For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3–10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for

standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

**Application height**: Do not make application at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure to droplets to evaporation and wind.

**Swath adjustment:** When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2–10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature inversions: Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive areas:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals. Do not allow product to drift to blooming crops or weeds if bees are foraging. Minimize spray drift away from the target area to reduce effects to other non-target insects.

#### SEED TREATMENT APPLICATION

MBI-206 EP can be applied as a seed dressing at plant or in commercial seed treatments for suppression of insect and nematode damage. Apply MBI-206 EP as a water-based slurry with other registered seed treatment insecticides, nematicides and fungicides through standard slurry- or mist-type commercial seed treatment equipment.

**Mixing instructions:** Prepare no more mixture than is required for the immediate operation. Agitate the solution continuously during mixing and application. Mechanical mixing is recommended for proper mixing of MBI-206 EP mixtures. For seed treatment, apply 8 ounces of MBI-206 EP per 100 pounds of seed.

MBI-206 EP <u>alone</u>: Add ½ of the required amount of water to the mix tank. With the agitator running, add the MBI-206 EP to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the MBI-206 EP has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

MBI-206 EP <u>+ tank-mixtures</u>: Add ½ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process.

**Note:** When using MBI-206 EP in tank-mixtures, all products in water soluble packaging should be added to the tank before any other tank-mix partner, including MBI-206 EP. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank-mix partner to the tank.

If using MBI-206 EP in a tank mixture with other seed treatment products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations that appear on the tank-mix partner label. No label dosage may be exceeded and the most restrictive label precautions and limitations must be followed. This product should not be mixed with any product that prohibits such mixing.

**For Pre-plant Seed Treatment**: Treat only those seeds needed for immediate use, minimizing the interval between treatment and planting. Do not store excess treated seeds beyond planting time.

**For Commercial Seed Treatment:** The active ingredient Heat-killed *Burkholderia spp.* Strain A396 cells and spent fermentation media is exempt from the requirement of a tolerance for residues in and on all food commodities. Commercial seed treaters are not required to add a dye to this product before treating seed. Treated seed can be used for or mixed with food or animal feed, or processed for oil.

#### SOIL TREATMENT USE DIRECTIONS

MBI-206 EP can be applied by soil drench, in-furrow spray, or soil injection to protect against certain soil-borne insects or nematodes.

In general, MBI-206 EP can be applied by the following methods, unless specified differently in the SELECTED CROPS section:

**Soil Drench Applications:** Apply MBI-206 EP at a concentration of 1–8 quarts per 100 gallons of water and at a sufficient rate to thoroughly soak the growing media and root zone. Multiple drench applications can be made on a 10–14 day interval for insect control treatments. Nematode control treatments are limited to pre-plant or at-plant soil drench applications.

**Shanked-In and Injected Applications:** MBI-206 EP can be shanked-in or injected into the soil alone, or with most types of liquid nutrients. Use a jar test to confirm physical compatibility prior to application.

**In-Furrow Applications:** At planting, apply MBI-206 EP as an in-furrow spray or as a 5-7 inch band (T-band) over an open furrow at the rate of 1–8 quarts per acre, or 1.8–19.6 fluid ounces per 1000 feet of row, according to the chart below. Apply MBI-206 EP in 10–20 gallons of water per acre so as the spray is directed over the seed furrow just before the seeds are covered.

Rate	In-Furrow and T-band Application Rates Product per 1000 ft. row.					
-	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows
1–8 quarts MBI-206 EP per acre	1.8-14.7 fluid ounces	2.0-15.7 fluid ounces	2.1-16.7 fluid ounces	2.2-17.6 fluid ounces	2.3-18.6 fluid ounces	2.4-19.6 fluid ounces

30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

#### CHEMIGATION USE - DIRECTIONS FOR INSECT CONTROL

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand moved irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

#### **Spray preparation**

First prepare a suspension of MBI-206 EP in a mix tank. Fill tank ½ to ¾ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine MBI-206 EP with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. MBI-206 EP has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

#### **General Requirements**

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### Specific Requirements for Chemigation Systems Connected to Public Water Systems

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### Specific Requirements for Sprinkler Chemigation

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### **Application Instructions for All Types of Chemigation**

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

#### SHAKE WELL BEFORE USE

## FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF INSECTS AND MITES

Pre-harvest Interval (PHI) = 0 days

#### **Asparagus**

#### 1-8 quarts MBI-206 EP per acre

Armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### **Bananas**

#### 1-4 quarts MBI-206 EP per acre

Banana skipper, banana rust thrips, Hawaiian flower thrips

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Stink bugs - tank-mix with a contact insecticide for improved control.

#### **Bulbs**

Leek, Garlic and onion (bulb and green)

#### 1-8 quarts MBI-206 EP per acre

Loopers, omnivorous leafrollers, hornworm, imported cabbageworm, diamondback moth, green cloverworm, webworm, saltmarsh caterpillar, armyworms, cutworm, cross-striped cabbageworm, *Heliothis* 

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips

#### **Bushberries**

Blueberry, High Bush Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Ligonberry, Salal

#### 1-8 quarts MBI-206 EP per acre

Armyworms, cherry fruitworm, cranberry fruitworm, fireworms, leafrollers, loopers, plum curculio

For plum curculio, begin applications when adults are active and prior to start of oviposition. Repeat applications on a 4-7 day interval until adults are no longer active and developing fruit in no longer susceptible to damage. Rotation or tank-mixing with other insecticides labeled for plum curculio is recommended.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, blueberry blossom weevil,

Blueberry maggot, spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### Caneberries

Blackberry, Loganberry, Red and Black Raspberry, and Cultivars and/or hybrids of these

#### 1-8 quarts MBI-206 EP per acre

Armyworms, green fruitworm, leafrollers, loopers, western raspberry fruitworm

#### 1–8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips,

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### Cereal Grains

Barley, Buckwheat, Grain Amaranth, Milo, Oats, Pearl Millet, Proso Millet, Rye, Sorghum, Triticale, Wheat

#### 1-8 quarts MBI-206 EP per acre

Armyworms, corn earworm (headworm), southwestern corn borer, web worms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids (including greenbug), thrips, chinch bugs, mites

#### 1.8 - 19.6 fluid ounces per 1000 foot row

For low to medium infestations of soil insects, use an at-planting in-furrow application in 10-20 gallons of water per acre. When high pest infestations are anticipated or encountered, other effective soil treatments may be needed.

Cutworms, root and seed maggots, seed corn beetle, wireworms

#### Citrus

Grapefruit, Lemons, Limes, Oranges, Tangerines

#### 1-8 quarts MBI-206 EP per acre

Fruittree leafroller, orangedog, citrus cutworm, citrus leafminer

#### 1-8 quarts MBI-206 EP per acre

Citrus rust mite, Asian citrus psyllid.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, Florida red scale, twospotted spider mite, Texas citrus mite, citrus red mite, six-spotted mite, citrus thrips, mealybugs,

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### Cranberry

#### 1-8 quarts MBI-206 EP per acre

Armyworms, leafrollers, fireworms, loopers, sparganothis fruitworm, cranberry fruitworm, spanworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, mites, cranberry blossom weevil

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### Cole Crops

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

#### 1-8 quarts MBI-206 EP per acre

Diamondback moth, cabbage looper, imported cabbageworm, cabbage webworm, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Whiteflies, thrips, aphids, leafhoppers, mites, billbugs, Swede midge

Stink bugs and plant bugs - tank-mix with a contact insecticide for improved control.

#### Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

#### 1-8 quarts MBI-206 EP per acre

Armyworm, European corn borer, southwestern corn borer, western bean cutworm, corn earworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Corn leaf aphid, mites, leafhoppers

Stink bugs and plant bugs - tank-mix with a contact insecticide for improved control.

#### 1.8 - 19.6 fluid ounces per 1000 foot row

For low to medium infestations of soil insects, use an at-planting in-furrow or T-band application in 10-20 gallons of water per acre. When high pest infestations are anticipated or encountered, other effective soil treatments may be needed.

Cutworms, root and seed maggots, seed corn beetle, wireworms, southern, western, and northern corn rootworm larvae.

#### Cotton

#### 1-8 quarts MBI-206 EP per acre

European corn borer, cotton bollworm, tobacco budworm, loopers (soybean and cabbage), saltmarsh caterpillar, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Cotton aphid, leafhoppers, thrips, mites

Stink bugs and plant bugs - tank-mix with a contact insecticide for improved control.

#### **Cucurbit Vegetables**

Cucumber, edible gourds, muskmelon (cantaloupe, muskmelon, etc.), pumpkin, watermelon, winter and summer squash

#### 1-8 quarts MBI-206 EP per acre

Armyworm, cabbage looper, melonworm, pickleworm, rindworm complex

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Silverleaf whitefly, whiteflies, aphids, thrips, mites,

Spotted wing drosophila – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wind drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### Fig

#### 1-8 quarts MBI-206 EP per acre

Navel orangeworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips

Spotted wing drosophila – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wind drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### Fruiting Vegetables

Tomato, Tomatillo, Pepper, Ground Cherry, Pepino, Okra and Eggplant

#### 1-8 quarts MBI-206 EP per acre

Loopers, hornworm, tomato fruitworm, variegated cutworm, saltmarsh caterpillar, armyworms, tomato pinworm, European corn borer, pepper weevil, thrips

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mites, whiteflies, psyllids

Spotted wing drosophila – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wind drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs, pepper weevil, plant bugs, Lygus - tank-mix with a contact insecticide for improved control. Use pheromone traps to time applications for control of pepper weevil.

#### Grape

#### 1–8 quarts MBI-206 EP per acre

Grape leaf skeletonizer, grape leafroller, omnivorous leafroller, orange tortrix, oblique banded leafroller, grape berry moth, leafhopper

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Pacific spider mite, Willamette Spider Mite, twospotted spider mite, mealybugs, whiteflies, thrips,

Spotted wing drosophila – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wind drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

Herbs, Spices and Mints (outdoor or enclosed, including those grown as bedding plants)

Angelica, balm, basil, borage, burnet, chamomile, catnip, chervil, chive, clary, coriander, costmary, cilantro, curry, dillweed, horehound, hyssop, lavender, lemongrass, lovage, marjoram, nasturtium,

parsley (dried), peppermint, rosemary, sage, savory (summer and winter), sweet bay, tansy, tarragon, thyme, wintergreen, woodruff and wormwood

#### 1-8 quarts MBI-206 EP per acre

Loopers, saltmarsh caterpillar and armyworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies and mites

#### **Hops and Dried Cones**

#### 1-8 quarts MBI-206 EP per acre

Armyworms, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Hops, aphid, thrips, whiteflies and mites

#### Leafy Vegetables and Leaves of Root and Tuber and Legume Vegetables

Arugula, Beets, Celery, Chervil, Cilantro, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Garden Peas, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Turnip Greens and Watercress

#### 1-8 quarts MBI-206 EP per acre

Cabbage looper, diamondback moth, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, whiteflies, thrips, psyllids, mites,

Stink bugs – tank mix with a contact insecticide for improved control.

#### Oil Crops

Canola, Castor, Flax, Jojoba, Hemp, Rapeseed, Safflower, Sesame, Sunflower (including sunflower grown for seed)

#### 1-8 quarts MBI-206 EP per acre

Armyworm, diamondback moth, looper, saltmarsh caterpillar, Heliothis, headworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### Pineapple

#### 1-8 quarts MBI-206 EP per acre

Gummosos-Batracheda Comosae (Hodges), Thecla-Thecla Basilides (Geyr)

#### **Pome Fruit**

Apples, Crabapple, Loquat, Mayhaw, Pears and Quince

#### 1-8 quarts MBI-206 EP per acre

Pear psyllid, San Jose scale

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wind drosophila should be part

of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs and plum curculio. Tank-mix with a contact insecticide for improved control.

#### **Pomegranate**

#### 1-8 quarts MBI-206 EP per acre

Walnut caterpillar, cankerworm, gypsy moth, variegated leafroller, redbanded leafroller, tufted apple budmoth, fruittree leafroller, oriental fruit moth, cutworm, filbert leafroller, oblique banded leafroller, codling moth, armyworm and twig borer.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

European red mite, twospotted red mite, Pacific spider mite, McDaniel spider mite

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wind drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank mix with a contact insecticide for improved control

#### Potatoes and Tuberous and Corm Vegetables

Artichoke, Cassava, Chayote Root, Chinese Artichoke, Garden Beet, Ginger, Jerusalem Artichoke, Potatoes, Sugar Beet, Sweet Potatoes, Turmeric and Yams

#### 1-8 quarts MBI-206 EP per acre

Armyworms, artichoke plume moth, European corn borer, loopers, aphids, potato aphid, whiteflies, Psyllids

Apply 1–8 quarts MBI-206 EP per acre for chemigation applications.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Potato leafhopper

Stink bugs - tank mix with a contact insecticide for improved control.

#### 1.8 - 19.6 fluid ounces per 1000 foot row

For low to medium infestations of soil insects, use an at-planting in-furrow or T-band application in 10-20 gallons of water per acre. When high pest infestations are anticipated or encountered, other effective soil treatments may be needed.

Cutworms, root and seed maggots, seed corn beetle, wireworms

#### **Root Vegetables**

Black Salsify, Carrot, Celeriac, Chicory, Edible Burdock, Ginseng, Horseradish, Parsnip, Radish, Oriental Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Turnip, Turnip-rooted Chervil, and Turnip Rooted Parsley

#### 1-8 quarts MBI-206 EP per acre

Armyworms, European corn borer, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### **Shade and Ornamental Trees and Forests**

#### 1-8 quarts MBI-206 EP per acre

Gypsy moth, elm spanworm, tent caterpillar, California oakworm, pine butterfly, spruce budworm, saddle prominent caterpillar, Douglas fir tussock moth, western tussock moth, fruittree leafroller, blackheaded budworm, mimosa webworm, jack pine budworm, saddleback caterpillar, greenstriped mapleworm, hemlock looper

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Mites, aphids, whiteflies, lace bugs,

Stink bugs – tank mix with a contact insecticide for improved control.

#### Soybean

#### 1-8 quarts MBI-206 EP per acre

Loopers, soybean looper, cabbage looper, green cloverworm, veletbean caterpillar, armyworm, podworm, corn earworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, soybean aphid, potato leafhopper, leafhoppers, whiteflies, mites, thrips Kudzu bug – tank mix with a contact insecticide for improved control.

#### 1.8 - 19.6 fluid ounces per 1000 foot row

For low to medium infestations of soil insects, use an at-planting in-furrow or T-band application in 10-20 gallons of water per acre. When high pest infestations are anticipated or encountered, other effective soil treatments may be needed.

Cutworms, root and seed maggots, seed corn beetle, wireworms

#### Stone Fruits

#### Apricots, Cherry, Nectarine, Peach, Plum, Prune

#### 1-8 quarts MBI-206 EP per acre

Green fruitworm, leafrollers (including oblique-banded, fruit tree, pandemic, redbanded, variegated), oriental fruit moth, redhumped caterpillar, tent caterpillar, peach twig borer,

Application timing: optimal timing for peach twig borer and leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. Use a 7–10-day re-treatment schedule to maintain control if the crop is growing rapidly or if there is heavy pest pressure. Use a 3–4-day re-treatment schedule at flowering.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mealybugs, thrips, whiteflies, mites,

Stink bugs and plum curculio - tank mix with a contact insecticide for improved control.

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

#### Strawberry

#### 1-8 quarts MBI-206 EP per acre

Armyworms, leafrollers, thrips

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, whiteflies, mites.

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs, plant bugs and Lygus- tank-mix with a contact insecticide for improved control.

#### Tobacco

#### 1-8 quarts MBI-206 EP per acre

Hornworm, tobacco budworm, looper

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### **Tree Farms and Plantations**

Conifers, Including Christmas Trees and Deciduous Trees

#### 1-8 quarts MBI-206 EP per acre

Bagworm, fall webworm, gypsy moth, hemlock looper, jackpine budworm, pine tip moth, redhumped caterpillar, spruce budworm, tent caterpillar, tussock moths

#### **Tree Fruits**

Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilama, Jaboticaba, Kiwi, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Ti Palm Leaves, Wax Jambu (Wax Apple), White Sapote

#### 1-8 quarts MBI-206 EP per acre

Avocado leafroller, citrus peelminer, cutworms, fruit tree leafroller, omnivorous leafroller, orange tortrix, western tussock moth

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### **Tree Nuts and Pistachios**

Almond, Cashew, Chestnut, Filbert (Hazelnut), Macadamia, Pecan, Pistachio, Walnut

#### 1-8 quarts MBI-206 EP per acre

Fall webworm, filbert worm, hickory shuckworm, navel orange worm, oblique banded leafroller, peach twig borer, pecan nut casebearer, redhumped caterpillar

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mealybugs, whiteflies, codling moth

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Use up product within 6 months of purchase.

Pesticide Storage: Store in a cool dry place. Avoid freezing.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry). Container Handling: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

ACRC Logo Placeholder

Marrone Bio Innovations is a member of the Ag Container Recycling Council.

Visit <a href="http://www.acrecycle.org/contact">http://www.acrecycle.org/contact</a> for information on how to arrange pick-up of this empty pesticide container.

## Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

## Sublabel B: Greenhouse, Nursery, Turf & Professional Landscape Use

## **MBI-206 EP**

## (Alternate Names: VENERATE, VENERATE XC, VENERATE PTO)

**BIOLOGICAL INSECTICIDE** 

(Can Be Used in Organic Production) (For Organic Production)(For Organic Lawn Care)(OMRI Placeholder)

## KEEP OUT OF REACH OF CHILDREN CAUTION

# FIRST AID • Hold eye open and rinse slowly and gently with water for 15–20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice. HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or going for

treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14 Net Contents: XX (Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc.

1540 Drew Ave.

Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

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EPA Est. No.: XXXXX-XX-XXX

<sup>\*</sup>Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. <u>Note</u>: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

#### PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, and protective eyewear. Mixers / loaders and applicators not in enclosed cabs or aircraft must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handing this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwaters or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, *including those used in Integrated Pest Management (IPM) programs or organic agriculture.* 

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Keep unprotected persons out of treated areas until sprays have dried.

#### PRODUCT INFORMATION

MBI-206 EP is a biological insecticide containing killed cells of *Burkholderia spp.* strain A396 and spent fermentation media, for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect pests by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional insecticide spraying.

#### GENERAL USE INSTRUCTIONS - FOR INSECT CONTROL

MBI-206 EP is an insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. MBI-206 EP does not have systemic activity.

Under heavy pest populations, use the higher label rates, shorten the spray interval, increase the spray volume to improve coverage, and/or apply in tank mixture with another product that has activity on the target pest.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

The use of adjuvants with MBI-206 is not recommended, except to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed canopy, dense foliage and penetration into waxy leaf surfaces.

#### Bees and beneficial insects:

- To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.
- Do not allow product to drift to blooming crops or weeds if bees are foraging.

Minimize spray drift away from the target area to reduce effects to other non-target insects.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. Prior to treating an entire field or crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

MBI-206 EP has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

#### Mixing directions

**Important** – Do not add MBI-206 EP to the mix tank before introducing the desired amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-206 EP. Add the desired volume of MBI-206 EP to the mix tank and continue circulation. Maintain circulation while loading and spraying. Do not mix more MBI-206 EP than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

#### Tank mixing

Do not combine MBI-206 EP in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first,

then flowables, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank

#### **GROUND APPLICATION**

Apply MBI-206 EP in ground equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage. For turf applications, apply MBI-206 EP in a minimum of 1.5 gallons of water per 1000 square feet (65 gallons water per acre). For foliar applications using broadcast application equipment apply MBI-206 EP in a minimum of 30 gallons of water per acre. For dilute applications to bedding plants, trees and shrubs, apply MBI-206 EP at a dilution of 2 to 8 quarts per 100 gallons of water. Use of a quality surfactant will aid performance. Do not use carrier volumes and/or adjuvants that create spray runoff or drip-accumulation at the base of the commercial commodity.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

#### CHEMIGATION USE - DIRECTIONS FOR INSECT CONTROL

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

#### Spray preparation

First prepare a suspension of MBI-206 EP in a mix tank. Fill tank ½ to ¾ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine MBI-206 EP with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. MBI-206 EP has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

#### **General Requirements**

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### Specific Requirements for Chemigation Systems Connected to Public Water Systems

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

#### **Specific Requirements for Sprinkler Chemigation**

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### **Application Instructions for All Types of Chemigation**

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

## SHAKE WELL BEFORE USE FOR USE ON THE FOLLOWING SITES FOR CONTROL OF INSECTS AND MITES

FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF INSECTS AND MITES [Pre-harvest Interval (PHI) = 0 days]

#### **Asparagus**

#### 1-8 quarts MBI-206 EP per acre

Armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids,

Stink bugs- tank mix with a contact insecticide for improved control.

#### Bulbs

Leek, Garlic and onion (bulb and green)

#### 1-8 quarts MBI-206 EP per acre

Loopers, omnivorous leafrollers, hornworm, imported cabbageworm, diamondback moth, green cloverworm, webworm, saltmarsh caterpillar, armyworms, cutworm, cross-striped cabbageworm, Heliothis

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips

#### **Bushberries**

Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Ligonberry, Salal

#### 1-8 quarts MBI-206 EP per acre

Armyworms, cherry fruitworm, cranberry fruitworm, fireworms, leafrollers, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, blueberry blossom weevil

Blueberry maggot, spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wind drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### Caneberries

#### Blackberry, Loganberry, Red and Black Raspberry, and Cultivars and/or hybrids of these

#### 1-8 quarts MBI-206 EP per acre

Armyworms, green fruitworm, leafrollers, loopers, western raspberry fruitworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### Citrus Grapefruit, Lemons, Limes, Oranges, Tangerines

#### 1-8 quarts MBI-206 EP per acre

Fruittree leafroller, orangedog, citrus cutworm, citrus leafminer

#### 1-8 quarts MBI-206 EP per acre

Citrus rust mite, Asian citrus psyllid.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, Florida red scale, twospotted spider mite, Texas citrus mite, citrus red mite, six-spotted mite, citrus thrips, mealybugs

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs - tank-mix with a contact insecticide for improved control.

#### Cole Crops

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

#### 1-8 quarts MBI-206 EP per acre

Diamondback moth, cabbage looper, imported cabbageworm, cabbage webworm, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Whiteflies, thrips, aphids, leafhoppers, plant bugs, mites, billbugs, Swede midge

Stink bugs - for improved control tank mix with a contact insecticide

#### **Cucurbit Vegetables**

Cucumber, edible gourds, muskmelon (cantaloupe, muskmelon, etc.), pumpkin, watermelon, winter and summer squash

#### 1-8 quarts MBI-206 EP per acre

Armyworm, cabbage looper, melonworm, pickleworm, rindworm complex

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Silverleaf whitefly, whiteflies, aphids, thrips, mites

Stink bugs - for improved control tank mix with a contact insecticide

#### Fruiting Vegetables

Tomato, Tomatillo, Pepper, Ground Cherry, Pepino, Okra and Eggplant

#### 1-8 quarts MBI-206 EP per acre

Loopers, hornworm, tomato fruitworm, variegated cutworm, saltmarsh caterpillar, armyworms, tomato pinworm, European corn borer, pepper weevil, thrips

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mites, whiteflies, psyllids, thrips,

Spotted wing drosophila – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wind drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs, pepper weevil, plant bugs, Lygus - tank-mix with a contact insecticide for improved control. Use pheromone traps to time applications for control of pepper weevil.

Herbs, Spices and Mints (outdoor or enclosed, including those grown as bedding plants)

Angelica, balm, basil, borage, burnet, chamomile, catnip, chervil, chive, clary, coriander, costmary, cilantro, curry, dillweed, horehound, hyssop, lavender, lemongrass, lovage, marjoram, nasturtium, parsley (dried), peppermint, rosemary, sage, savory (summer and winter), sweet bay, tansy, tarragon, thyme, wintergreen, woodruff and wormwood

#### 1-8 quarts MBI-206 EP per acre

Loopers, saltmarsh caterpillar and armyworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies and mites

Leafy Vegetables and Leaves of Root and Tuber and Legume Vegetables

Arugula, Beets, Celery, Chervil, Cilantro, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Garden Peas, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Turnip Greens and Watercress

#### 1-8 quarts MBI-206 EP per acre

Cabbage looper, diamondback moth, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, whiteflies, thrips, psyllids, mites

Stink bugs - tank mix with a contact insecticide for improved control

Pome Fruit

#### Apples, Crabapple, Loquat, Mayhaw, Pears and Quince

#### 1-8 quarts MBI-206 EP per acre

Pear psyllid, San Jose scale

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wind drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs and plum curculio. Tank-mix with a contact insecticide for improved control

#### **Root Vegetables**

Black Salsify, Carrot, Celeriac, Chicory, Edible Burdock, Ginseng, Horseradish, Parsnip, Radish, Oriental Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Turnip, Turnip-rooted Chervil, and Turnip Rooted Parsley

#### 1-8 quarts MBI-206 EP per acre

Armyworms, European corn borer, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### **Stone Fruits**

Apricots, Cherry, Nectarine, Peach, Plum, Prune

#### 1-8 quarts MBI-206 EP per acre

Green fruitworm, leafrollers (including oblique-banded, fruit tree, pandemic, redbanded, variegated), oriental fruit moth, redhumped caterpillar, tent caterpillar, peach twig borer,

Application timing: optimal timing for peach twig borer and leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. Use a 7–10-day re-treatment schedule to maintain control if the crop is growing rapidly or if there is heavy pest pressure. Use a 3–4-day re-treatment schedule at flowering.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mealybugs, thrips, whiteflies, mites

Stink bugs and plum curculio - tank mix with a contact insecticide for improved control.

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

#### Strawberry

#### 1-8 quarts MBI-206 EP per acre

Armyworms, leafrollers, thrips

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, whiteflies, mites,

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs, plant bugs and Lygus- tank-mix with a contact insecticide for improved control.

#### **Tree Farms and Plantations**

Conifers, Including Christmas Trees and Deciduous Trees

#### 1-8 quarts MBI-206 EP per acre

Bagworm, fall webworm, gypsy moth, hemlock looper, jackpine budworm, pine tip moth, redhumped caterpillar, spruce budworm, tent caterpillar, tussock moths

#### Tree Fruits

Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilama, Jaboticaba, Kiwi, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Ti Palm Leaves, Wax Jambu (Wax Apple), White Sapote

#### 1–8 quarts MBI-206 EP per acre

Avocado leafroller, citrus peelminer, cutworms, fruit tree leafroller, omnivorous leafroller, orange tortrix, western tussock moth

#### 1–8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

Spotted wing drosophila and fruit flies – applications should begin as soon as adult flies are active and continue until adult activity is no longer present. Use of MBI-206 EP for control of spotted wing drosophila should be part of an integrated management program that includes tank-mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, applications should be made at no more than a 7-day interval and more frequently if necessary to maintain control.

Stink bugs, plant bugs and Lygus- tank-mix with a contact insecticide for improved control.

#### **Tree Nuts and Pistachios**

Almond, Cashew, Chestnut, Filbert (Hazelnut), Macadamia, Pecan, Pistachio, Walnut

#### 1-8 quarts MBI-206 EP per acre

Fall webworm, filbert worm, hickory shuckworm, navel orange worm, oblique banded leafroller, peach twig borer, pecan nut casebearer, redhumped caterpillar

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Codling moth, aphids, mealybugs, whiteflies,

#### Ornamentals

Including: Flowering plants, foliage plants, broadleaves, shrubs, trees, conifers

#### 1-8 quarts MBI-206 EP per acre

Bagworm, fall webworm, gypsy moth, elm spanworm, tent caterpillar, California oakworm, pine butterfly, spruce budworm, saddle prominent caterpillar, Douglas fir tussock moth, western tussock moth, fruittree leafroller,

blackheaded budworm, mimosa webworm, jack pine budworm, saddleback caterpillar, greenstriped mapleworm, hemlock looper, pine tip moth, redhumped caterpillar, spruce budworm

#### 1-8 quarts MBI-206 EP per acre

Mites, aphids, whiteflies, lace bugs

Stink bugs, black vine weevil - suppression. Tank mix with a contact insecticide for improved stink bug control.

#### **Turfgrass and Ornamental grasses**

#### 1-8 quarts MBI-206 EP per acre

Armyworms, cutworms, sod webworms, bluegrass billbug

#### 1-8 quarts MBI-206 EP per acre

Chinch bug, leafhoppers, annual bluegrass weevil - suppression

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Use up product within 6 months of purchase.

Pesticide Storage: Store in a cool dry place. Avoid freezing.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry). Container Handling: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

#### ACRC Logo Placeholder

Marrone Bio Innovations is a member of the Ag Container Recycling Council.

Visit <a href="http://www.acrecycle.org/contact.html">http://www.acrecycle.org/contact.html</a> for information on how to arrange pick-up of this empty pesticide container.

### Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

#### **Sublabel C: Nematicide Use**

### **MBI-206 EP**

#### (BIOLOGICAL NEMATICIDE)

(SIGEOGIONE NEIMATIONE

(Can Be Used in Organic Production) (For Organic Production)(OMRI Placeholder)

Active Ingredient: Heat-killed Burkholderia spp. strain A396 cells and spent

fermentation media ......94.46%

 Other ingredients:
 5.54%

 Total:
 100.00%

\*Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. <u>Note</u>: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

### KEEP OUT OF REACH OF CHILDREN CAUTION

# FIRST AID • Hold eye open and rinse slowly and gently with water for 15–20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice. HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14 Net Contents: XX (Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc.

1540 Drew Ave. Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

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**EPA Est. No.: XXXXX-XX-XXX** 

#### PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, and protective eyewear. Mixers / loaders and applicators must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS:** When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handing this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, *including those used in Integrated Pest Management (IPM) programs or organic agriculture.* 

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

#### **Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water), is:

- Protective eyewear
- Coveralls
- Chemical resistant gloves (made from any waterproof material)
- Shoes plus socks

**EXCEPTION:** If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

#### PRODUCT INFORMATION

MBI-206 EP is a biological insecticide and nematicide containing killed cells of *Burkholderia spp.* strain A396 and spent fermentation media, for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP can be used in either the field or greenhouse for the control of any labeled pest.

Bees and beneficial insects:

- To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.
- Do not allow product to drift to blooming crops or weeds if bees are foraging.

Minimize spray drift away from the target area to reduce effects to other non-target insects.

MBI-206 has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. Prior to treating entire crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

MBI-206 has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

#### SOIL TREATMENT USE DIRECTIONS

#### DO NOT APPLY THIS PRODUCT BY AERIAL APPLICATION.

MBI-206 EP can be applied by soil drench, broadcast, and chemigation (drip, trickle or sprinkler irrigation) and as an in-furrow spray, T-band or soil injection to protect against certain soil-borne nematodes.

In general, MBI-206 EP can be applied by the following methods, unless specified differently in the SELECTED CROPS section:

**Soil Drench Applications:** Apply MBI-206 EP at a rate of 1–8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone. Nematode control treatments can occur prior to planting, and at or near planting or transplanting as soil drench applications.

**Broadcast Applications:** MBI-206 EP can be applied to bare soil alone or with most types of pesticides and nutrients prior to planting, at planting, at transplant, and in-season. Apply with a minimum of 30 gallons of water and follow with a minimum of 0.5 inches of irrigation water or natural rainfall within 1-2 days to allow the material to move through the soil profile. Use a jar test to confirm physical compatibility prior to application.

**Shanked-In and Injected Applications:** MBI-206 EP can be shanked-in or injected into the soil alone, or with most types of pesticides and nutrients prior to planting, and at planting. Use a jar test to confirm physical compatibility prior to application.

**In-Furrow and T-Band applications:** At planting, apply MBI-206 EP as an in-furrow spray or as a 5-7 inch band (T-band) over an open seed furrow at the rate of 1-8 qt/A (1.8 – 19.6 fluid ounces per 1000 feet of row based on per acre rate and row spacing according to the chart below). Apply MBI-206 EP in a minimum of 5 gallons of water per acre, with the spray directed over the seed furrow just before the seeds are covered by soil. MBI-206 EP applied as a T-Band should be lightly incorporated into the top 1 inch of soil by drag chains or tines.

In-furrow and T-band Application Rates

Rate	In-Furrow and T-band Application Rates Product per 1000 ft. row.						
	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows	
1–8 quarts MBI-206 EP per acre	1.8-14.7 fluid ounces	2.0-15.7 fluid ounces	2.1-16.7 fluid ounces	2.2-17.6 fluid ounces	2.3-18.6 fluid ounces	2.4-19.6 fluid ounces	

30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

**Chemigation:** Prior to, at or shortly after planting or transplanting, and in season: apply MBI-206 EP at 1-8 quarts per acre according to the directions in the CHEMIGATION USE DIRECTION section of this label.

#### **CHEMIGATION USE DIRECTIONS**

#### Spray preparation

First, prepare a suspension of MBI-206 EP in a mix tank. Fill tank with ¾ of the amount of water for the area to be treated. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then, set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line, delivering the desired rate of MBI-206 EP per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. MBI-206 EP is to be metered continuously for the duration of the water application. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not combine MBI-206 EP with other pesticides, surfactants, adjuvants, or fertilizers for application through chemigation equipment unless prior experience has shown the combination to be physically compatible, effective and non-injurious under your conditions of use.

#### General Requirements -

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, micro-emitter, or hand move, or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.

- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### Specific Requirements for Chemigation Systems Connected to Public Water Systems -

- 1) Public water system means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ), or the functional equivalent in the water supply line, upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank, of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve, to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve, located on the intake side of the injection pump and connected to the system interlock, to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides, and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### Specific Requirements for Sprinkler Chemigation -

- 1) The system must contain a functional check valve, vacuum relief valve, and low-pressure drain, appropriately located on the irrigation pipeline, to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve, to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve, located on the intake side of the injection pump and connected to the system interlock, to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides, and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### Specific Requirements for Drip (Trickle) Chemigation -

- 1) The system must contain a functional check valve, vacuum relief valve, and low-pressure drain, appropriately located on the irrigation pipeline, to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve, to prevent the flow of fluid back toward the injection pump.

- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve, located on the intake side of the injection pump and connected to the system interlock, to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides, and capable of being fitted with a system interlock.

#### Application Instructions for All Types of Chemigation -

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues, may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use, and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

#### Application Instructions for Drip Chemigation

- 1) Check to be sure that the system provides a uniform waterflow.
- 2) Irrigate crop with sufficient water to wet the root zone. Then, begin flow of the solution containing product solution from the chemical tank for a period to uniformly distribute the material. Discontinue flow of the MBI-206 EP mixture and let the system continue to run only as necessary to purge the line with fresh water. Let the MBI-206 EP solution remain in the root zone of the crop.

#### SEED TREATMENT APPLICATION

MBI-206 EP can be applied as a seed dressing at plant or in commercial seed treatments for suppression of nematode damage. Apply MBI-206 EP as a water-based slurry with other registered seed treatment insecticides, nematicides and fungicides through standard slurry- or mist-type commercial seed treatment equipment.

**Mixing instructions:** Prepare no more mixture than is required for the immediate operation. Agitate the solution continuously during mixing and application. Mechanical mixing is recommended for proper mixing of MBI-206 EP mixtures. For seed treatment, apply 8 ounces of MBI-206 EP per 100 pounds of seed.

MBI-206 EP <u>alone</u>: Add ½ of the required amount of water to the mix tank. With the agitator running, add the MBI-206 EP to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the MBI-206 EP has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

MBI-206 EP + tank-mixtures: Add ½ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process.

**Note:** When using MBI-206 EP in tank-mixtures, all products in water soluble packaging should be added to the tank before any other tank-mix partner, including MBI-206 EP. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank-mix partner to the tank.

If using MBI-206 EP in a tank mixture with other seed treatment products, observe all directions for use crops/sites, use rates, dilution ratios, precautions, and limitations that appear on the tank-mix partner label. No label dosage may be exceeded and the most restrictive label precautions and limitations must be followed. This product should not be mixed with any product that prohibits such mixing.

For Pre-plant Seed Treatment: Treat only those seeds needed for immediate use, minimizing the interval between treatment and planting. Do not store excess treated seeds beyond planting time.

**For Commercial Seed Treatment:** The active ingredient Heat-killed *Burkholderia spp.* Strain A396 cells and spent fermentation media is exempt from the requirement of a tolerance for residues in and on all food commodities. Commercial seed treaters are not required to add a dye to this product before treating seed. Treated seed can be used for or mixed with food or animal feed, or processed for oil.

#### SHAKE WELL BEFORE USE

FOR USE ON THE FOLLOWING CROPS FOR CONTROL OF THE FOLLOWING NEMATODES: Root-knot (Melodigyne spp.), lesion (Pratylenchus spp.), sting (Belonolaimus spp.), stunt (Tylenchorhynchus spp.), ring (Bursaphelenchus spp.), soybean cyst nematode (Heterodera glycines), and reniform (Rotylenchulus spp.) nematodes

FOR USE ON THE FOLLOWING CROPS FOR CONTROL OF THE FOLLOWING SOIL BORNE INSECTS: Cutworms, root and seed maggots, seed corn beetle, wireworms, southern, western, and northern corn rootworm larvae.

Pre-harvest Interval (PHI) = 0 days

#### Brassica (Cole) Leafy Vegetables

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, and Rape Greens

#### 1-8 quarts MBI-206 EP per acre

For applications using chemigation, apply at the rate of 1-8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### **Bulb Vegetables**

Leek, Garlic, Onion (Bulb and Green) and Shallot

#### 1-8 quarts MBI-206 EP per acre

For applications using chemigation, apply at the rate of 1-8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### **Cereal Grains**

Barley, Buckwheat, Grain Amaranth, Milo, Oats, Pearl Millet, Proso Millet, Rye, Sorghum, Triticale, Wheat

#### 1-8 quarts MBI-206 EP per acre

For applications using chemigation, apply at the rate of 1-8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

#### 1.8 - 19.6 fluid ounces MBI-206 EP per 1000 foot row

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray in a minimum of 5 gallons of water per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Seed Treatment for Corn

For suppression of plant-parasitic nematodes, apply 8 ounces of MBI-206 EP per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

#### Cotton

#### 1.8 – 19.6 fluid ounces MBI-206 EP per 1000 foot row

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray in a minimum of 5 gallons of water per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Seed treatment for Cotton

For suppression of plant-parasitic nematodes, apply 8 ounces of MBI-206 EP per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

#### **Cucurbit Vegetables**

Cucumber, Edible Gourds, Muskmelon, Cantaloupe, Pumpkin, Watermelon, Winter and Summer Squash, and Zucchini

#### 1-8 quarts MBI-206 EP per acre

For applications using chemigation, apply at the rate of 1-8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Fruiting Vegetables

#### Tomato, Tomatillo, Pepper, Groundcherry, Pepino, Okra and Eggplant

#### 1-8 quarts MBI-206 EP per acre

For applications using chemigation, apply at the rate of 1-8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### **Leafy Vegetables**

Arugula, Celery, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach and Swiss Chard

#### 1-8 quarts MBi-206 EP per acre

For applications using chemigation, apply at the rate of 1-8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### **Peanuts**

#### 1.8 - 19.6 fluid ounces MBI-206 EP per 1000 foot row

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray in a minimum of 5 gallons of water per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Soybean

#### 1.8 - 19.6 fluid ounces MBI-206 EP per 1000 foot row

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray a minimum of 5 gallons of water per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Seed treatment for Soybean

For suppression of plant-parasitic nematodes, apply 8 ounces of MBI-206 EP per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

#### **Root and Tuber Vegetables**

Artichoke, Black Salsify, Carrot, Cassava, Celeriac, Chayote Root, Chicory, Chinese Artichoke, Edible Burdock, Garden Beet, Ginger, Ginseng, Horseradish, Jerusalem Artichoke, Oriental Radish, Parsnip,

Potatoes, Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Sugar Beet, Sweet Potatoes, Turneric, Turnip, Turnip-rooted Chervil, Turnip-rooted Parsley and Yams

#### 1-8 quarts MBI-206 EP per acre

For applications using chemigation, apply at the rate of 1-8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

, apply at the rate of 1-8 quarts per acre.

#### Strawberry

#### 1-8 quarts MBI-206 EP per acre

For applications using chemigation, apply at the rate of 1-8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Tropical Fruits: Banana, Mangos, Papayas, Pineapple, Plantains

#### 1-8 quarts MBI-206 EP per acre

For applications using chemigation, apply at the rate of 1 – 8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Tobacco

#### 1-8 quarts MBI-206 EP per acre

For applications using chemigation, apply at the rate of 1-8 quarts per acre prior to planting, at planting or shortly thereafter, at transplant or shortly thereafter, and in-season. For broadcast applications, apply at the rate of 1-8 quarts per acre prior to planting, at planting, at transplant, and in-season. For applications as a soil drench, apply MBI-206 EP at a rate of 1-8 quarts per acre in sufficient water to thoroughly soak the growing media and root zone prior to planting, and at or near planting or transplanting.

When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Use up product within 6 months of purchase. **Pesticide Storage:** Store in a cool dry place. Avoid freezing.

**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments, or by industry).

Container Handling: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ½ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn unless allowed by state and local ordinances.

#### ACRC Logo Placeholder

Marrone Bio Innovations is a member of the Ag Container Recycling Council.

Visit <a href="http://www.acrecycle.org/contact">http://www.acrecycle.org/contact</a> for information on how to arrange pick-up of this empty pesticide container.

### Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

### Sublabel D: Home & Garden Use

### **MBI-206 EP**

## (Alternate Names: VENERATE, VENERATE XC, VENERATE PTO)

#### **BIOLOGICAL INSECTICIDE**

(Can Be Used in Organic Gardening) (For Organic Gardening)(For Organic Lawn Care)(OMRI Placeholder)

### KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID				
<ul> <li>Hold eye open and rinse slowly and gently with water for 15–20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>				
	HOT LINE NUMBER			

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14 Net Contents: XX (Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc.

1540 Drew Ave. Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

US Patents No. XXXXX

XXXX® is a trademark of Marrone Bio Innovations, Inc.

Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

**EPA Est. No.: XXXXX-XX-XXX** 

<sup>\*</sup>Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. <u>Note</u>: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

#### PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

**ENVIRONMENTAL HAZARDS:** To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

#### HOME AND GARDEN USE DIRECTIONS

MBI-206 EP is a biological insecticide containing killed cells of *Burkholderia spp.* strain A396 and spent fermentation media, for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect targets by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray.

To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. If you plan to release beneficial insects into your garden, consult with an extension specialist or with the product manufacturer prior to treating entire garden.

#### **DIRECTIONS FOR CONTROL OF FOLIAR PESTS**

#### WHEN TO USE

For best results, apply MBI-206 EP if pest species are present but before populations are causing visible damage.

#### **BEFORE YOU USE**

Read and follow these directions when using:

Do not allow spray to drift from application site.

Use only with pressurized hand-held sprayers or spray trigger bottles.

Do not allow spray mixture to stand overnight or for prolonged periods.

MBI-206 EP can be applied in commonly used pressurized hand-held sprayers, spray trigger bottles and hose-end sprayers.

#### HOW TO USE FOR HAND-HELD SPRAYERS AND SPRAY TRIGGER BOTTLES

Fill sprayer or bottle with appropriate amount of water and concentrate.

Mix the spray solution thoroughly.

Keep the spray solution agitated during application.

#### **HOW TO USE FOR HOSE-END SPRAYERS**

Follow hose-end sprayer instructions to determine how to fill, set dial, clean and disconnect from hose.

Set dial on sprayer to deliver rate as directed below.

#### **HOW MUCH TO USE FOR ALL APPLICATIONS**

2 tablespoons of MBI-206 EP per gallon of water

Some pesticides can cause phytotoxic effects ranging from slight burning or browning of leaves to distorted leaves, fruit, flowers or stems. Damage symptoms may vary with the type of plant that has been treated. It is impossible to test all plant species for phytotoxicity. To assure that the plants to be treated are not sensitive to the treatment, apply a small amount of the product to a few leaves or the above ground portion of the plant and check back in 2–4 days for signs of phytotoxicity. Use product according to label directions.

### INSECTS CONTROLLED OR SUPPRESSED ON VEGETABLES, FRUITS, NUTS, ORNAMENTAL PLANTS, TREES, SHRUBS, FLOWERS, FOLIAGE AND TROPICAL PLANTS

Alfalfa caterpillar

Alfalfa webworm

Adelgids

**Aphids** 

Armyworms

Cabbage looper

Chinch buas

Codling moth

Corn earworm

Diamondback moth

Fruit flies

Hornworms

Imported cabbageworm

Lace bugs

Leaf rollers

Leafhoppers

Light brown apple moth

Loopers

Mealybugs

Mites

Plant bugs

Plum curculio

Psyllids
Scales
Sharpshooters
Spittle bugs
Stink bugs
Tent caterpillars
Thrips
Tufted apple budworm
Webworms
Whiteflies

#### DIRECTIONS FOR SUPPRESSION OF SOIL-BORNE PESTS (EXCLUDING TURF)

For suppression of soil-borne pests, including seed maggots, wireworms, symphylans, cutworms, white grubs and plant-parasitic nematodes, apply MBI-206 EP as a soil drench directly into the seed furrow. Mix MBI-206 EP at rate of 5 tablespoons per gallon of water, and apply the mixture at the rate of 1 quart (32 fluid ounces) per 25 feet of row. For individual plants, such as tomatoes and peppers, apply the mixture as a soil drench at the rate of 4 fluid ounces per plant.

#### **DIRECTIONS FOR SUPPRESSION OF PESTS OF TURF**

Bluegrass billbug, annual bluegrass weevil, chinch bugs, armyworm, webworms, and cutworms

Mix MBI-206 EP at the rate of 5 tablespoons per gallon of water, and apply to turf with a pressurized sprayer at the rate of 1 gallon per 250 square feet of turf.

#### Plant parasitic nematodes

Mix 5 tablespoons MBI-206 EP per gallon of water, and apply at the rate of 1 gallon per 250 square feet of turf. For best control, thoroughly irrigate following application to moisten the top inch of soil. There should be no more than ½ inch of thatch present at the time of application. Under dry conditions where thatch is present, pre-watering is recommended prior to application.

For control of bluegrass billbug, annual bluegrass weevil, chinch bugs, armyworm, webworms, and cutworms it is not necessary to irrigate following application.

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Use up product within 6 months of purchase.

Pesticide Storage: Store in a cool, dry place.

**Pesticide Disposal and Container Handling:** Nonrefillable container. Do not reuse or refill this container. **If empty:** Place in trash and offer for recycling if available.

**If partially filled:** Call your local solid waste agency or (800) 858-7378 (National Pesticide Information Center) for disposal instructions. Never place unused product down any indoor or outdoor drain.

### Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

### **Optional Label Claims**

- Bioinsecticide
- Bionematicide

### Material to be added to an e-Jacket/Jacket

Reg. No. 84059-14

1. 🕟	☑ Defau	Placement within the e-Jacket/jacket:  ☑ Default: (chronological, top/newest)  □ Description: (PDF page number, i.e., "before page 45")				
<b>2</b> . [	✓ Send to D	ata Extraction contractors this material:				
		Newly stamped accepted label				
	$\square$	Notification				
		New CSF				
		Other:				
mus	st be well or	oversheet to the top of the material or jacket. It ganized and clipped together, NOT STAPLED.				

Reviewer's Name: Michael Glikes

Information Services Center (Room S-4900).

Phone: (703)305-6231 Division: BPPD

Date: May 14, 2014



#### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

MAY 1 3 2014

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Mr. Keith Pitts Vice President, Regulatory Affairs Marrone Bio Innovations 2121 Second Street, Suite B-107 Davis, CA 95618

Subject: Product Name: MBI-206 EP

EPA Reg. No.: 84059-14

Application for Notification Dated: April 25, 2014

Dear Mr. Fournier:

The Biopesticides and Pollution Prevention Division is in receipt of your application for Notification under 98-10 dated above. A preliminary screen of this request has been conducted for its applicability under PRN 98-10, and it has been determined that the action requested falls within the scope of PRN 98-10. Our records have been duly noted, and the label submitted with this application has been stamped "Notification accepted" and placed accordingly in our records.

Questions concerning this action should be directed to Michael Glikes at (703)305-6231 or glikes.michael@epa.gov.

Sincerely.

Kimberly Nesci, Chief

Microbial Pesticides Branch

Biopesticides & Pollution Prevention Division



April 25, 2014

Kimberly Nesci
Microbial Pesticides Branch
Office of Chemical Safety and Pollution Prevention (7511P)
U.S. Environmental Protection Agency
One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202

Subject: Notification of labeling changes to add pests per PR Notice 98-10

Dear Ms. Nesci,

Please find the enclosed notification of amended master labeling per PR Notice 98-10 for MBI-206 EP (EPA Reg. No. 84059-14). Eleven pests (below) were inadvertently omitted from the previous version of the master label that was stamped.

Cranberry (Pg. 12 of 31)—-cranberry fruitworm, spanworms
Fruiting Vegetables (Pg. 13 of 31)——pepper weevil, thrips
Grape (Pg. 14 of 31)—leafhopper
Pome Fruit (Pg. 15 of 31)——San Jose scale
Potatoes (Pg. 15 of 31)—aphids, potato aphid, whiteflies, potato leafhopper
Strawberry (Pg. 16 of 31)—thrips

"This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the CSF of this product. I understand that it is a violation of 1 U.S.C. Section 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA, and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."

Please let me know if I need to provide any additional information. As always, thank you for your assistance and guidance. With best wishes,

Keith Pitts

Vice President, Regulatory Affairs

Please read instructions on reverse before completing form	. Form Apr	Print Form			
United St Environmental Prot Washington, D	ection Agency	Registration Amendment  Other			
Appli	cation for Pesticide - Sec	ction I			
1. Company/Product Number 84059/84059-14	<b>2. EPA Product Ma</b> Kimberly Nesci	anager 3. Proposed Classification			
<b>4. Company/Product (Name)</b> Marrone Bio Innovations/MBI-206 EP	<b>PM#</b> 91	X None Restricted			
5. Name and Address of Applicant (Include ZIP Code)  Marrone Bio Innovations 2121 Second Street, Suite B-107, Davis CA, 95618	(b)(i), my product to:	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No.			
Check if this is a new address	Product Name				
	Section - II				
Amendment - Explain below.  Resubmission in response to Agency letter dated _  X Notification - Explain below.	Agency le	ted labels in response to etter dated Application.  Application.			
Explanation: Use additional page(s) if necessary. (For section I and Section II.)  Notification of labeling changes to add pests in accordance with PR Notice 98-10.					
	Section - III				
Material This Product Will Be Packaged In:					
Child-Resistant Packaging  Yes*  X No  Unit Packaging  Yes  No	Water Soluble Packaging Yes X No	2. Type of Container  Metal  Plastic  Glass			
* Certification must be submitted   If "Yes"   No. p Unit Packaging wgt. conta					
] <u></u>	s) Retail Container gal, bul	5. Location of Label Directions  On Label On Labeling accompanying product			
6. Manner in Which Label is Affixed to Product	Lithograph Oth Paper glued Stenciled	er			
	Section - IV				
1. Contact Point (Complete items directly below for ident	fication of individual to be contacted	d, if necessary, to process this application.)			
Name Keith Pitts	VP-Regulatory Affairs	Telephone No. (Include Area Code) 530-750-2800			
Cel I certify that the statements I have made on this for I acknowledge that any knowingly false or misleadir both under applicable law.					
2. Signature	<b>3. Title</b> VP-Regulatory Affairs				
4. Typed Name	5. Date				
Keith Pitts	April 25, 2014				

### **MBI-206 EP**

# (Alternate Names: VENERATE, VENERATE XC, VENERATE PTO)

**MASTER LABEL, containing:** 

Sublabel A: Agricultural Crop Use

Sublabel B: Turf & Ornamental Use

Sublabel C: Home & Garden Use

EPA Reg. No.: 84059-14

Manufactured by: Marrone Bio Innovations, Inc.

2121 Second St., Suite B-107

Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

#### **Notification Accepted**

Date: MAY 1 3 2014

Reviewer: M. Glikes

### Sublabel A: Agricultural Crop Use

### **MBI-206 EP**

### (Alternate Names: VENERATE, VENERATE XC)

#### **BIOLOGICAL INSECTICIDE**

(Can Be Used in Organic Production) (For Organic Production)(OMRI Placeholder)

Active Ingredient: Heat-killed Burkholderia spp. strain A396 cells and spent

fermentation media......94.46%

\*Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg, Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

#### KEEP OUT OF REACH OF CHILDREN CAUTION

#### **FIRST AID**

#### If in eyes

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

#### **HOT LINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14

Net Contents: XX

(Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc.

2121 Second St., Suite B-107 Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

US Patents No. XXXXX

XXXX® is a registered trademark of Marrone Bio Innovations, Inc.

Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

**EPA Est. No.:** XXXXX-XX-XXX

#### PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks. Mixers / loaders and applicators must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS:** When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handing this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, *including those used in Integrated Pest Management (IPM) programs or organic agriculture.* 

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

#### **Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water), is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

**EXCEPTION:** If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

#### PRODUCT INFORMATION

MBI-206 EP is a biological insecticide containing killed cells and fermentation solids of *Burkholderia spp.* strain A396 for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect pests by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional insecticide spraying.

MBI-206 EP can be used in either the field or greenhouse for the control of any labeled pest.

#### GENERAL USE INSTRUCTIONS - FOR INSECT CONTROL

MBI-206 EP is an insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae, nymphs or immature pests is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. For some crops, directed drop nozzles by ground machine are required.

Under heavy pest populations, use the higher label rates, shorten the spray interval, increase the spray volume to improve coverage, and/or apply in tank mixture with another product that has activity on the target pest.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

Adjuvants may be used to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed crop canopy, dense foliage and penetration into waxy leaf surfaces.

Bees and beneficial insects:

- To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.
- Do not allow product to drift to blooming crops or weeds if bees are foraging.
- Minimize spray drift away from the target area to reduce effects to other non-target insects.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. Prior to treating entire crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

MBI-206 EP has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

#### **GROUND AND AERIAL APPLICATION**

Apply MBI-206 EP in ground and aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

#### **Mixing directions**

**Important** –Fill tank ½ to ¾ of desired amount of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-206 EP. Add the desired volume of MBI-206 EP to the mix tank and the remaining volume of water and continue circulation. Maintain circulation while loading and spraying. Do not mix more MBI-206 EP than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

#### Tank mixing

Do not combine MBI-206 EP in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables second, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can readily be remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

#### **Row Crop Application**

Use calibrated power-operated ground equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. A minimum of 10 gallons per acre by ground or 5 gallons by aerial application should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, disc core/hollow cone or twin jet flat fan nozzles suitable for insecticide spraying. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and

spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition to reduce drift.

#### Orchard Spraying

- Dilute spray application: This application method is based on the premise that all plant parts are thoroughly wetted, to the point of runoff, with spray solution. To determine the number of gallons of dilute spray per acre, contact your extension specialist, state agricultural experiment station, or certified pest control advisor for assistance.
- Concentrate spray application: This application method is based on the premise that all plant
  parts are uniformly covered with spray solution but not to the point of runoff as with a dilute
  spray. Instead, a lower spray volume is used to deliver the same application rate of product per
  acre as is used for the dilute spray.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

#### AERIAL APPLICATION AND DRIFT REDUCTION ADVISORY INFORMATION

**General:** Apply in a spray volume of 5 or more gallons per acre on row crops and 10 or more gallons per acre on tree or orchard crops. Insect control by aerial application may be less than control by ground application because of reduced coverage.

**Spray drift**: Avoiding spray drift at the application site is the responsibility of the applicator. The Interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

**Information on droplet size**: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that will provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling droplet size: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Number of nozzles - Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Use low-drift nozzles, such as solid stream nozzles that are oriented straight back to produce the largest droplets and the lowest drift.

**Boom width**: For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3–10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for

standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

**Application height**: Do not make application at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure to droplets to evaporation and wind.

**Swath adjustment:** When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2–10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature inversions: Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals. Do not allow product to drift to blooming crops or weeds if bees are foraging. Minimize spray drift away from the target area to reduce effects to other non-target insects.

#### SEED TREATMENT APPLICATION

MBI-206 EP can be applied as a seed dressing at plant or in commercial seed treatments for suppression of insect and nematode damage. Apply MBI-206 EP as a water-based slurry with other registered seed treatment insecticides, nematicides and fungicides through standard slurry- or mist-type commercial seed treatment equipment.

**Mixing instructions:** Prepare no more mixture than is required for the immediate operation. Agitate the solution continuously during mixing and application. Mechanical mixing is recommended for proper mixing of MBI-206 EP mixtures. For seed treatment, apply 8 ounces of MBI-206 EP per 100 pounds of seed.

MBI-206 EP alone: Add ½ of the required amount of water to the mix tank. With the agitator running, add the MBI-206 EP to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the MBI-206 EP has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

MBI-206 EP + tank-mixtures: Add ½ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process.

**Note:** When using MBI-206 EP in tank-mixtures, all products in water soluble packaging should be added to the tank before any other tank-mix partner, including MBI-206 EP. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank-mix partner to the tank.

If using MBI-206 EP in a tank mixture with other seed treatment products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations that appear on the tank-mix partner label. No label dosage may be exceeded and the most restrictive label precautions and limitations must be followed. This product should not be mixed with any product that prohibits such mixing.

For Pre-plant Seed Treatment: Treat only those seeds needed for immediate use, minimizing the interval between treatment and planting. Do not store excess treated seeds beyond planting time.

For Commercial Seed Treatment: The active ingredient Heat-killed *Burkholderia spp.* Strain A396 cells and spent fermentation media is exempt from the requirement of a tolerance for residues in and on all food commodities. Commercial seed treaters are not required to add a dye to this product before treating seed. Treated seed can be used for or mixed with food or animal feed, or processed for oil.

#### SOIL TREATMENT USE DIRECTIONS

MBI-206 EP can be applied by soil drench, in-furrow spray, or soil injection to protect against certain soil-borne insects or nematodes.

In general, MBI-206 EP can be applied by the following methods, unless specified differently in the SELECTED CROPS section:

**Soil Drench Applications:** Apply MBI-206 EP at a concentration of 1–8 quarts per 100 gallons of water and at a sufficient rate to thoroughly soak the growing media and root zone. Multiple drench applications can be made on a 10–14 day interval for insect control treatments. Nematode control treatments are limited to pre-plant or at-plant soil drench applications.

**Shanked-In and Injected Applications:** MBI-206 EP can be shanked-in or injected into the soil alone, or with most types of liquid nutrients. Use a jar test to confirm physical compatibility prior to application.

**In-Furrow Applications:** At planting, apply MBI-206 EP as an in-furrow spray or as a 5-7 inch band (T-band) over an open furrow at the rate of 1–8 quarts per acre, or 7.3–19.6 fluid ounces per 1000 feet of row, according to the chart below. Apply MBI-206 EP in 5–20 gallons of water per acre so as the spray is directed over the seed furrow just before the seeds are covered.

Rate	In-Furrow and T-band Application Rates Product per 1000 ft. row.						
	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows	
1–8 quarts MBI-206 EP per acre	7.3–14.7	7.8–15.7	8.3–16.7	8.8–17.6	9.3–18.6	9.8–19.6	

30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

#### CHEMIGATION USE - DIRECTIONS FOR INSECT CONTROL

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand moved irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

#### Spray preparation

First prepare a suspension of MBI-206 EP in a mix tank. Fill tank ½ to ¾ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine MBI-206 EP with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. MBI-206 EP has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

#### **General Requirements**

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do กงใ apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### Specific Requirements for Chemigation Systems Connected to Public Water Systems

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### Specific Requirements for Sprinkler Chemigation

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### **Application Instructions for All Types of Chemigation**

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

#### SHAKE WELL BEFORE USE

### FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF INSECTS AND MITES

Pre-harvest Interval (PHI) = 0 days

#### **Asparagus**

#### 1-8 quarts MBI-206 EP per acre

Armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, Stink bugs

#### **Bananas**

#### 1-4 quarts MBI-206 EP per acre

Banana skipper,

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Stink bugs

#### Bulbs

Leek, Garlic and onion (bulb and green)

#### 1-8 quarts MBI-206 EP per acre

Loopers, omnivorous leafrollers, hornworm, imported cabbageworm, diamondback moth, green cloverworm, webworm, saltmarsh caterpillar, armyworms, cutworm, cross-striped cabbageworm, Heliothis

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips

#### **Bushberries**

Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Ligonberry, Salal

1-8 quarts MBI-206 EP per acre

Armyworms, cherry fruitworm, cranberry fruitworm, fireworms, leafrollers, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, blueberry blossom weevil Stink bugs

#### Caneberries

Blackberry, Loganberry, Red and Black Raspberry, and Cultivars and/or hybrids of these

#### 1-8 quarts MBI-206 EP per acre

Armyworms, green fruitworm, leafrollers, loopers, western raspberry fruitworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, stink bugs

#### **Cereal Grains**

Barley, Buckwheat, Grain Amaranth, Milo, Oats, Pearl Millet, Proso Millet, Rye, Sorghum, Triticale, Wheat

#### 1-8 quarts MBI-206 EP per acre

Armyworms, corn earworm (headworm), southwestern corn borer, web worms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids (including greenbug), thrips, chinch bugs, mites

#### Citrus

Grapefruit, Lemons, Limes, Oranges, Tangerines

#### 1-8 quarts MBI-206 EP per acre

Fruittree leafroller, orangedog, citrus cutworm, citrus leafminer

#### 1-8 quarts MBI-206 EP per acre

Citrus rust mite, Asian citrus psyllid.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, Florida red scale, twospotted spider mite, Texas citrus mite, citrus red mite, six-spotted mite, citrus thrips, mealybugs Stink bugs

#### Cranberry

#### 1-8 quarts MBI-206 EP per acre

Armyworms, leafrollers, fireworms, loopers, sparganothis fruitworm, cranberry fruitworm, spanworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, mites, cranberry blossom weevil

#### Cole Crops

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

1-8 quarts MBI-206 EP per acre

Diamondback moth, cabbage looper, imported cabbageworm, cabbage webworm, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Whiteflies, thrips, aphids, leafhoppers, plant bugs, mites, billbugs Swede midge and stink bugs

#### Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

#### 1-8 quarts MBI-206 EP per acre

Armyworm, European corn borer, southwestern corn borer, western bean cutworm, corn earworm,

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Corn leaf aphid, mites, leafhoppers Stink bugs

#### Cotton

#### 1-8 quarts MBI-206 EP per acre

European corn borer, cotton bollworm, tobacco budworm, loopers (soybean and cabbage), saltmarsh caterpillar, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Cotton aphid, leafhoppers, thrips, mites, Lygus Stink bugs

#### **Cucurbit Vegetables**

Cucumber, edible gourds, muskmelon (cantaloupe, muskmelon, etc.), pumpkin, watermelon, winter and summer squash

#### 1-8 quarts MBI-206 EP per acre

Armyworm, cabbage looper, melonworm, pickleworm, rindworm complex

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Silverleaf whitefly, whiteflies, aphids, thrips, mites Stink bugs

#### Fig

#### 1-8 quarts MBI-206 EP per acre

Navel orangeworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, Stink bugs

#### Fruiting Vegetables

Tomato, Tomatillo, Pepper, Ground Cherry, Pepino, Okra and Eggplant

#### 1-8 quarts MBI-206 EP per acre

Loopers, hornworm, tomato fruitworm, variegated cutworm, saltmarsh caterpillar, armyworms, tomato pinworm, European corn borer, pepper weevil, thrips

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mites, *Lygus*, whiteflies, plant bugs, psyllids Stink bugs

#### Grape

#### 1-8 quarts MBI-206 EP per acre

Grape leaf skeletonizer, grape leafroller, omnivorous leafroller, orange tortrix, oblique banded leafroller, grape berry moth, leafhopper

#### 1–8 quarts MBI-206 EP per acre (Suppression)

Pacific spider mite, Willamette Spider Mite, twospotted spider mite, mealybugs, whiteflies, thrips Stink bugs

Herbs, Spices and Mints (outdoor or enclosed, including those grown as bedding plants)
Angelica, balm, basil, borage, burnet, chamomile, catnip, chervil, chive, clary, coriander, costmary, cilantro, curry, dillweed, horehound, hyssop, lavender, lemongrass, lovage, marjoram, nasturtium, parsley (dried), peppermint, rosemary, sage, savory (summer and winter), sweet bay, tansy, tarragon, thyme, wintergreen, woodruff and wormwood

#### 1-8 quarts MBI-206 EP per acre

Loopers, saltmarsh caterpillar and armyworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies and mites

#### **Hops and Dried Cones**

#### 1-8 quarts MBI-206 EP per acre

Armyworms, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Hops, aphid, thrips, whiteflies and mites

Leafy Vegetables and Leaves of Root and Tuber and Legume Vegetables

Arugula, Beets, Celery, Chervil, Cilantro, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Garden Peas, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Turnip Greens and Watercress

#### 1-8 quarts MBI-206 EP per acre

Cabbage looper, diamondback moth, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, whiteflies, thrips, psyllids, mites Stink bugs

#### Oil Crops

Canola, Safflower, Sunflower (including sunflower grown for seed)

#### 1-8 quarts MBI-206 EP per acre

Armyworm, diamondback moth, looper, saltmarsh caterpillar, Heliothis, headworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### Pineapple

#### 1-8 quarts MBI-206 EP per acre

Gummosos-Batracheda Comosae (Hodges), Thecla-Thecla Basilides (Geyr)

#### **Pome Fruit**

Apples, Crabapple, Loquat, Mayhaw, Pears and Quince

#### 1-8 quarts MBI-206 EP per acre

Pear psyllid, Plum curculio, San Jose scale

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Stink bugs

#### **Pomegranate**

#### 1-8 quarts MBI-206 EP per acre

Walnut caterpillar, cankerworm, gypsy moth, variegated leafroller, redbanded leafroller, tufted apple budmoth, fruittree leafroller, oriental fruit moth, cutworm, filbert leafroller, oblique banded leafroller, codling moth, armyworm and twig borer.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

European red mite, twospotted red mite, Pacific spider mite, McDaniel spider mite

#### Potatoes and Tuberous and Corm Vegetables

Artichoke, Cassava, Chayote Root, Chinese Artichoke, Garden Beet, Ginger, Jerusalem Artichoke, Potatoes, Sugar Beet, Sweet Potatoes, Turmeric and Yams

#### 1-8 quarts MBI-206 EP per acre

Armyworms, artichoke plume moth, European corn borer, loopers, aphids, potato aphid, whiteflies

#### 1–8 quarts MBI-206 EP per acre

Psyllids.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Stink bugs, potato leafhopper

#### **Root Vegetables**

Black Salsify, Carrot, Celeriac, Chicory, Edible Burdock, Ginseng, Horseradish, Parsnip, Radish, Oriental Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Turnip, Turnip-rooted Chervil, and Turnip Rooted Parsley

#### 1-8 quarts MBI-206 EP per acre

Armyworms, European corn borer, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

# **MBI-206 EP**

# (Alternate Names: VENERATE, VENERATE XC, VENERATE PTO)

**MASTER LABEL, containing:** 

Sublabel A: Agricultural Crop Use

Sublabel B: Turf & Ornamental Use

Sublabel C: Home & Garden Use

EPA Reg. No.: 84059-14

Manufactured by: Marrone Bio Innovations, Inc.

2121 Second St., Suite B-107

Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

**Notification Accepted** 

Date: APR 1 8 2014

Reviewer: M. Glikes

### Sublabel A: Agricultural Crop Use

# MBI-206 EP (Alternate Names: VENERATE, VENERATE XC)

#### **BIOLOGICAL INSECTICIDE**

(Can Be Used in Organic Production) (For Organic Production)(OMRI Placeholder)

\*Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. <u>Note</u>: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

# KEEP OUT OF REACH OF CHILDREN CAUTION

# FIRST AID • Hold eye open and rinse slowly and gently with water for 15–20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice. HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14

Net Contents: XX (Batch)(Lot) No: XXXX

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Manufactured by:

Marrone Bio Innovations, Inc.

2121 Second St., Suite B-107 Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

US Patents No. Y.XXXX

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Marron.c Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

#### PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks. Mixers / loaders and applicators must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS:** When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handing this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, *including those used in Integrated Pest Management (IPM) programs or organic agriculture.* 

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

#### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water), is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

**EXCEPTION:** If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

#### PRODUCT INFORMATION

MBI-206 EP is a biological insecticide containing killed cells and fermentation solids of *Burkholderia spp.* strain A396 for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect pests by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional insecticide spraying.

MBI-206 EP can be used in either the field or greenhouse for the control of any labeled pest.

#### GENERAL USE INSTRUCTIONS - FOR INSECT CONTROL

MBI-206 EP is an insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae, nymphs or immature pests is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. For some crops, directed drop nozzles by ground machine are required.

Under heavy pest populations, use the higher label rates, shorten the spray interval, increase the spray volume to improve coverage, and/or apply in tank mixture with another product that has activity on the target pest.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

Adjuvants may be used to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed crop canopy, dense foliage and penetration into waxy leaf surfaces.

Bees and beneficial insects:

- To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.
- Do not allow product to drift to blooming crops or weeds if bees are foraging.
- Minimize spray drift away from the target area to reduce effects to other non-target insects.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. Prior to treating entire crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

MBI-206 EP has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

#### **GROUND AND AERIAL APPLICATION**

Apply MBI-206 EP in ground and aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

#### Mixing directions

Important –Fill tank ½ to ¾ of desired amount of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-206 EP. Add the desired volume of MBI-206 EP to the mix tank and the remaining volume of water and continue circulation. Maintain circulation while loading and spraying. Do not mix more MBI-206 EP than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

#### Tank mixing

Do not combine MBI-206 EP in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables second, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can readily be remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

#### **Row Crop Application**

Use calibrated power-operated ground equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. A minimum of 10 gallons per acre by ground or 5 gallons by aerial application should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, disc core/hollow cone or twin jet flat fan nozzles suitable for insecticide spraying. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and

spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition to reduce drift.

#### **Orchard Spraying**

- Dilute spray application: This application method is based on the premise that all plant parts are thoroughly wetted, to the point of runoff, with spray solution. To determine the number of gallons of dilute spray per acre, contact your extension specialist, state agricultural experiment station, or certified pest control advisor for assistance.
- Concentrate spray application: This application method is based on the premise that all plant
  parts are uniformly covered with spray solution but not to the point of runoff as with a dilute
  spray. Instead, a lower spray volume is used to deliver the same application rate of product per
  acre as is used for the dilute spray.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

#### AERIAL APPLICATION AND DRIFT REDUCTION ADVISORY INFORMATION

**General:** Apply in a spray volume of 5 or more gallons per acre on row crops and 10 or more gallons per acre on tree or orchard crops. Insect control by aerial application may be less than control by ground application because of reduced coverage.

**Spray drift**: Avoiding spray drift at the application site is the responsibility of the applicator. The Interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

**Information on droplet size**: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that will provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling droplet size: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Number of nozzles - Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Use low-drift nozzles, such as solid stream nozzles that are oriented straight back to produce the largest droplets and the lowest drift.

**Boom width**: For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3–10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for

standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

**Application height**: Do not make application at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure to droplets to evaporation and wind.

**Swath adjustment:** When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2–10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature inversions: Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals. Do not allow product to drift to blooming crops or weeds if bees are foraging. Minimize spray drift away from the target area to reduce offsets to other non-target insects.

#### SEED TREATMENT APPLICATION

MBI-206 EP can be applied as a seed dressing at plant or in commercial seed treatments for suppression of insect and nematode damage. Apply MBI-206 EP as a water-based slurry with other registered seed treatment insecticides, nematicides and fungicides through standard slurry- or mist-type commercial seed treatment equipment.

**Mixing instructions:** Prepare no more mixture than is required for the immediate operation. Agitate the solution continuously during mixing and application. Mechanical mixing is recommended for proper mixing of MBI-206 EP mixtures. For seed treatment, apply 8 ounces of MBI-206 EP per 100 pounds of seed.

MBI-206 EP alone: Add ½ of the required amount of water to the mix tank. With the agitator running, add the MBI-206 EP to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the MBI-206 EP has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

MBI-206 EP + tank-mixtures: Add ½ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process.

Note: When using MBI-206 EP in tank-mixtures, all products in water soluble packaging should be added to the tank before any other tank-mix partner, including MBI-206 EP. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank-mix partner to the tank.

If using MBI-206 EP in a tank mixture with other seed treatment products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations that appear on the tank-mix partner label. No label dosage may be exceeded and the most restrictive label precautions and limitations must be followed. This product should not be mixed with any product which prohibits such mixing.

For Pre-plant Seed Treatment: Treat only those seeds needed for immediate use, minimizing the interval between treatment and planting. Do not store excess treated seeds beyond planting time.

For Commercial Seed Treatment: The active ingredient Heat-killed *Burkholderia spp.* Strain A396 cells and spent fermentation media is exempt from the requirement of a tolerance for residues in and on all food commodities. Commercial seed treaters are not required to add a dye to this product before treating seed. Treated seed can be used for or mixed with food or animal feed, or processed for oil.

#### SOIL TREATMENT USE DIRECTIONS

MBi-206 EP can be applied by soil drench, in-furrow spray, or soil injection to protect against certain soil-borne insects or nematodes.

In general, M3I-206 EP can be applied by the following methods, unless specified differently in the SELECTED CROPS section:

**Soi** Drench Applications: Apply MBI-206 EP at a concentration of 1–8 quarts per 100 gallons of water and at a sufficient rate to thoroughly soak the growing media and root zone. Multiple drench applications can be made on a 10–14 day interval for insect control treatments. Nematode control treatments are limited to pre-plant or at-plant soil drench applications.

**Shanked-In and Injected Applications:** MBI-206 EP can be shanked-in or injected into the soil alone, or with most types of liquid nutrients. Use a jar test to confirm physical compatibility prior to application.

**In-Furrow Applications:** At planting, apply MBI-206 EP as an in-furrow spray or as a 5-7 inch band (T-band) over an open furrow at the rate of 1–8 quarts per acre, or 7.3–19.6 fluid ounces per 1000 feet of row, according to the chart below. Apply MBI-206 EP in 5–20 gallons of water per acre so as the spray is directed over the seed furrow just before the seeds are covered.

Rate	In-Furrow and T-band Application Rates Product per 1000 ft. row.						
	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows	
1–8 quarts MBI-206 EP per acre	7.3–14.7	7.8–15.7	8.3–16.7	8.8–17.6	9.3–18.6	9.8–19.6	

30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

#### CHEMIGATION USE - DIRECTIONS FOR INSECT CONTROL

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand moved irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

#### Spray preparation

First prepare a suspension of MBI-206 EP in a mix tank. Fill tank ½ to ¾ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine MBI-206 EP with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. MBI-206 EP has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

#### **General Requirements**

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### Specific Requirements for Chemigation Systems Connected to Public Water Systems

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### **Specific Requirements for Sprinkler Chemigation**

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2): The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

#### Application Instructions for All Types of Chemigation

- Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

#### SHAKE WELL BEFORE USE

FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF INSECTS AND MITES

Pre-harvest Interval (PHI) = 0 days

#### **Asparagus**

1-8 quarts MBI-206 EP per acre

Armyworms

1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, Stink bugs

#### **Bananas**

1-4 quarts MBI-206 EP per acre

Banana skipper,

1-8 quarts MBI-206 EP per acre (Suppression)

Stink bugs

#### Bulbs

Leek, Garlic and onion (bulb and green)

#### 1-8 quarts MBI-206 EP per acre

Loopers, omnivorous leafrollers, hornworm, imported cabbageworm, diamondback mcth, green cloverworm, webworm, saltmarsh caterpillar, armyworms, cutworm, cross-striped cabbageworm, Heliothis

1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips

#### **Bushberries**

Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Ligonberry, Salal

1-8 quarts MBI-206 EP per acre

Armyworms, cherry fruitworm, cranberry fruitworm, fireworms, leafrollers, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, blueberry blossom weevil Stink bugs

#### Caneberries

Blackberry, Loganberry, Red and Black Raspberry, and Cultivars and/or hybrids of these

#### 1-8 quarts MBI-206 EP per acre

Armyworms, green fruitworm, leafrollers, loopers, western raspberry fruitworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, stink bugs

#### **Cereal Grains**

Barley, Buckwheat, Grain Amaranth, Milo, Oats, Pearl Millet, Proso Millet, Rye, Sorghum, Triticale, Wheat

#### 1-8 quarts MBI-206 EP per acre

Armyworms, corn earworm (headworm), southwestern corn borer, web worms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids (including greenbug), thrips, chinch bugs, mites

#### Citrus

Grapefruit, Lemons, Limes, Oranges, Tangerines

#### 1-8 quarts MBI-206 EP per acre

Fruittree leafroller, orangedog, citrus cutworm, citrus leafminer

#### 1-8 quarts MBI-206 EP per acre

Citrus rust mite, Asian citrus psyllid.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, Florida red scale, twospotted spider mite, Texas citrus mite, citrus red mite, six-spotted mite, citrus thrips, mealybugs Stink bugs

#### Craribeiry

#### 1-8 quarts MBI-206 EP per acre

Armyworms, leafroilers, fireworms, loopers, sparganothis fruitworm,

#### 1-E quarts MB!-206 EP per acre (Suppression)

Aphids, thrips, mites, cranberry blossom weevil

#### **Cole Crops**

Broccoli. Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

1-8 quarts MBI-206 EP per acre

Diamondback moth, cabbage looper, imported cabbageworm, cabbage webworm, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Whiteflies, thrips, aphids, leafhoppers, plant bugs, mites, billbugs Swede midge and stink bugs

#### Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

#### 1-8 quarts MBI-206 EP per acre

Armyworm, European corn borer, southwestern corn borer, western bean cutworm, corn earworm,

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Corn leaf aphid, mites, leafhoppers
Stink bugs

#### Cotton

#### 1-8 quarts MBI-206 EP per acre

European corn borer, cotton bollworm, tobacco budworm, loopers (soybean and cabbage), saltmarsh caterpillar, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Cotton aphid, leafhoppers, thrips, mites, Lygus Stink bugs

#### **Cucurbit Vegetables**

Cucumber, edible gourds, muskmelon (cantaloupe, muskmelon, etc.), pumpkin, watermelon, winter and summer squash

#### 1-8 quarts MBI-206 EP per acre

Armyworm, cabbage looper, melonworm, pickleworm, rindworm complex

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Silverleaf whitefly, whiteflies, aphids, thrips, mites Stink bugs

#### Fig

#### 1–8 quarts MBI-206 EP per acre

Navel orangeworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, Stink bugs

#### Fruiting Vegetables

Tomato, Tomatillo, Pepper, Ground Cherry, Pepino, Okra and Eggplant

#### 1–8 quarts MBI-206 EP per acre

Loopers, hornworm, tomato fruitworm, variegated cutworm, saltmarsh caterpillar, armyworm, tomato pinworm, European corn borer

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mites, *Lygus*, pepper weevil, whiteflies, plant bugs, psyllids, thrips Stink bugs

#### Grape

#### 1-8 quarts MBI-206 EP per acre

Grape leaf skeletonizer, grape leafroller, omnivorous leafroller, orange tortrix, oblique banded leafroller, grape berry moth

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Pacific spider mite, Willamette Spider Mite, twospotted spider mite, mealybugs, whiteflies, thrips Stink bugs

Herbs, Spices and Mints (outdoor or enclosed, including those grown as bedding plants)
Angelica, balm, basil, borage, burnet, chamomile, catnip, chervil, chive, clary, coriander, costmary, cilantro, curry, dillweed, horehound, hyssop, lavender, lemongrass, lovage, marjoram, nasturtium, parsley (dried), peppermint, rosemary, sage, savory (summer and winter), sweet bay, tansy, tarragon, thyme, wintergreen, woodruff and wormwood

#### 1-8 quarts MBI-206 EP per acre

Loopers, saltmarsh caterpillar and armyworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies and mites

#### **Hops and Dried Cones**

#### 1-8 quarts MBI-206 EP per acre

Armyworms, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Hops, aphid, thrips, whiteflies and mites

#### Leafy Vegetables and Leaves of Root and Tuber and Legume Vegetables

Arugula, Beets, Celery, Chervil, Cilantro, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Garden Peas, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Turnip Greens and Watercress

#### 1-8 quarts MBI-206 EP per acre

Cabbage looper, diamondback moth, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Applies, whiteflies, thrips, psyllids, mites Stink bugs

#### Oil Crops

Canula, Safflower, Sunflower (including sunflower grown for seed)

#### 1-8 quarts MBI-206 EP per acre

Armyworm, diamondback moth, looper, saltmarsh caterpillar, Heliothis, headworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### **Pineapple**

#### 1-8 quarts MBI-206 EP per acre

Gummosos-Batracheda Comosae (Hodges), Thecla-Thecla Basilides (Geyr)

#### **Pome Fruit**

Apples, Crabapple, Loquat, Mayhaw, Pears and Quince

#### 21-8 quarts MBI-206 EP per acre

Pear psyllid, Plum curculio

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Stink bugs

#### **Pomegranate**

#### 1-8 quarts MBI-206 EP per acre

Walnut caterpillar, cankerworm, gypsy moth, variegated leafroller, redbanded leafroller, tufted apple budmoth, fruittree leafroller, oriental fruit moth, cutworm, filbert leafroller, oblique banded leafroller, codling moth, armyworm and twig borer.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

European red mite, twospotted red mite, Pacific spider mite, McDaniel spider mite

#### Potatoes and Tuberous and Corm Vegetables

Artichoke, Cassava, Chayote Root, Chinese Artichoke, Garden Beet, Ginger, Jerusalem Artichoke, Potatoes, Sugar Beet, Sweet Potatoes, Turmeric and Yams

#### 1-8 quarts MBI-206 EP per acre

Armyworms, artichoke plume moth, European corn borer, loopers

#### 1–8 quarts MBI-206 EP per acre

Psyllids.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, potato aphid, potato leafhopper, whiteflies, Stink bugs.

#### **Root Vegetables**

Black Salsify, Carrot, Celeriac, Chicory, Edible Burdock, Ginseng, Horseradish, Parsnip, Radish, Oriental Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Turnip, Turnip-rooted Chervil, and Turnip-Rooted Parsley

#### 1-8 quarts MBI-206 EP per acre

Armyworms, European corn borer, loopers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### Shade and Ornamental Trees and Forests

S. and

#### 1-8 quarts MBI-206 EP per acre

Gypsy moth, elm spanworm, tent caterpillar, California oakworm, pine butterfly, spruce budworm, saddle prominent caterpillar, Douglas fir tussock moth, western tussock moth, fruittree leafroller, blackheaded budworm, mimosa webworm, jack pine budworm, saddleback caterpillar, greenstriped mapleworm, hemlock looper

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Mites, aphids, whiteflies, lace bugs Stink bugs

#### Soybean

#### 1-8 quarts MBI-206 EP per acre

Loopers, soybean looper, cabbage looper, green cloverworm, veletbean caterpillar, armyworm, podworm, corn earworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, soybean aphid, potato leafhopper, leafhoppers, whiteflies, mites, thrips, kudzu bug

#### **Stone Fruits**

#### Apricots, Cherry, Nectarine, Peach, Plum, Prune

#### 1-8 quarts MBI-206 EP per acre

Green fruitworm, leafrollers (including oblique-banded, fruit tree, pandemic, redbanded, variegated), oriental fruit moth, redhumped caterpillar, tent caterpillar, peach twig borer,

Application timing: optimal timing for peach twig borer and leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. Use a 7–10-day re-treatment schedule to maintain control if the crop is growing rapidly or if there is heavy pest pressure. Use a 3–4-day re-treatment schedule at flowering.

#### 1-8 quarts MBI-206 EP per acre

Plum curculio

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mealybugs, thrips, whiteflies, mites, Stink bugs

#### Strawberry

#### 1-8 quarts MBI-206 EP per acre

Armyworms and leafrollers

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aprilds, tarips, Lygus, plant bugs, whiteflies, mites Stink bugs

#### Tobacco

#### 1-8 guarts MBI-206 EP per acre

Hornworm, tobacco budworm, looper

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### **Tree Farms and Plantations**

#### Conifers, Including Christmas Trees and Deciduous Trees

#### 1-8 quarts MBI-206 EP per acre

Bagworm, fall webworm, gypsy moth, hemlock looper, jackpine budworm, pine tip moth, redhumped caterpillar, spruce budworm, tent caterpillar, tussock moths

#### **Tree Fruits**

Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilama, Jaboticaba, Kiwi, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Ti Palm Leaves, Wax Jambu (Wax Apple), White Sapote

#### 1-8 quarts MBI-206 EP per acre

Avocado leafroller, citrus peelminer, cutworms, fruit tree leafroller, omnivorous leafroller, orange tortrix, western tussock moth

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### Tree Nuts and Pistachios

Almond, Cashew, Chestnut, Filbert (Hazelnut), Macadamia, Pecan, Pistachio, Walnut

#### 1-8 quarts MBI-206 EP per acre

Fall webworm, filbert worm, hickory shuckworm, navel orange worm, oblique banded leafroller, peach twig borer, pecan nut casebearer, redhumped caterpillar

#### 1-8 quarts VENERATE™ per acre (Suppression)

Aphids, mealybugs, mites, pecan weevil, whiteflies,

#### FOR USE ON THE FOLLOWING CROPS FOR CONTROL OF SPECIFIED NEMATODES:

Pre-harvest Interval (PHI) = 0 days

#### Brassica (Cole) Leafy Vegetables

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, and Rape Greens

#### 1–8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes.

#### **Bulb Vegetables**

Leek, Garlic, Onion (Bulb and Green) and Shallot

1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes.

#### Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray in 5 to 20 gallons per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### **Seed Treatment for Corn**

For suppression of plant-parasitic nematodes, apply 8 ounces of VENERATE™ per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

#### Cotton

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray in 5 to 20 gallons per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### **Seed treatment for Cotton**

For suppression of plant-parasitic nematodes, apply 8 ounces of MBI-206 EP per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

Root Knot Nematodes and reniform nematodes

#### **Cucurbit Vegetables**

Cucumber, Edible Gourds, Muskmelon, Cantaloupe, Pumpkin, Watermelon, and Winter and Summer Squash

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

#### Fruiting Vegetables

#### Tomato, Tomatillo, Pepper, Groundcherry, Pepino, Okra and Eggplant

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray

in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

#### Leafy Vegetables

Arugula, Celery, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach and Swiss Chard

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

#### Soybean

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray in 5 to 20 gallons per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Seed treatment for Soybean

For suppression of plant-parasitic nematodes, apply 8 ounces of MBI-206 EP per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

#### **Root and Tuber Vegetables**

Artichoke, Black Salsify, Carrot, Cassava, Celeriac, Chayote Root, Chicory, Chinese Artichoke, Edible Burdock, Garden Beet, Ginger, Ginseng, Horseradish, Jerusalem Artichoke, Oriental Radish, Parsnip, Potatoes, Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Sugar Beet, Sweet Potatoes, Tumeric, Turnip, Turnip-rooted Chervil, Turnip-rooted Parsley and Yams

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

#### Strawberry

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

#### Tobacco

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Use up product within 6 months of purchase.

Pesticide Storage: Store in a cool dry place. Avoid freezing.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry). Container Handling: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

#### ACRC Logo Placeholder

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Marrone Bio Innovations is a member of the Ag Container Recycling Council.

Visit <a href="http://www.acrecycle.org/contact">http://www.acrecycle.org/contact</a> for information on how to arrange pick-up of this empty pesticide container.

# Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

### Sublabel B: Turf & Ornamental Use

## **MBI-206 EP**

### (Alternate Names: VENERATE, VENERATE XC, **VENERATE PTO)**

**BIOLOGICAL INSECTICIDE** 

(Can Be Used in Organic Production) (For Organic Production)(For Organic Lawn Care)(OMRI Placeholder)

Active Ingredient: Heat-killed Burkholderia spp.strain A396 cells and spent fermentation media ......94.46% Other ingredients: 5.54% 

\*Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

#### KEEP OUT OF REACH OF CHILDREN **CAUTION**

#### **FIRST AID** • Hold eye open and rinse slowly and gently with water for 15-20 minutes. If in eves Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice. **HOT LINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14 **Net Contents: XX** 

(Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc.

2121 Second St., Suite B-107

Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

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**EPA Est. No.:** XXXXX-XX-XXX

#### PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks. Mixers / loaders and applicators not in enclosed cabs or aircraft must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS: Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handing this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwaters or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, *including those used in Integrated Pest Management (IPM) programs or organic agriculture.* 

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Keep unprotected persons out of treated areas until sprays have dried.

#### PRODUCT INFORMATION

MBI-206 EP is a biological insecticide containing killed cells and fermentation solids of *Burkholderia spp.* strain A396 for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect pests by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional insecticide spraying.

#### GENERAL USE INSTRUCTIONS - FOR INSECT CONTROL

MBI-2C6 EP is an insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. MBI-206 EP does not have systemic activity.

Under heavy pest populations, use the higher label rates, shorten the spray interval, increase the spray volume to improve coverage, and/or apply in tank mixture with another product that has activity on the target pest.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

Adjuvants may be used to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed canopy, dense foliage and penetration into waxy leaf surfaces.

#### Bees and beneficial insects:

- To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.
- Do not allow product to drift to blooming crops or weeds if bees are foraging.
- Minimize spray drift away from the target area to reduce effects to other non-target insects.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. Prior to treating an entire field or crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

MBI-206 EP has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

#### Mixing directions

Important – Do not add MBI-206 EP to the mix tank before introducing the desired amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-206 EP. Add the desired volume of MBI-206 EP to the mix tank and continue circulation. Maintain circulation while loading and spraying. Do not mix more MBI-203 EP than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

#### Tank mixing

Do not combine MBI-206 EP in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first,

then flowables, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

#### **GROUND APPLICATION**

Apply MBI-206 EP in ground equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage. For turf applications, apply MBI-206 EP in a minimum of 1.5 gallons of water per 1000 square feet (65 gallons water per acre). For foliar applications using broadcast application equipment apply MBI-206 EP in a minimum of 30 gallons of water per acre. For dilute applications to bedding plants, trees and shrubs, apply MBI-206 EP at a dilution of 2 to 8 quarts per 100 gallons of water. Use of a quality surfactant will aid performance. Do not use carrier volumes and/or adjuvants that create spray runoff or drip-accumulation at the base of the commercial commodity.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

#### CHEMIGATION USE - DIRECTIONS FOR INSECT CONTROL

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

#### Spray preparation

First prepare a suspension of MBI-206 EP in a mix tank. Fill tank ½ to ¾ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine MBI-206 EP with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. MBI-206 EP has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

#### General Requirements

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### Specific Requirements for Chemigation Systems Connected to Public Water Systems

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### Specific Requirements for Sprinkler Chemigation

- The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally crossed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

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- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### Application Instructions for All Types of Chemigation

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

# SHAKE WELL BEFORE USE FOR USE ON THE FOLLOWING SITES FOR CONTROL OF INSECTS AND MITES

#### **Ornamentals**

Including: Flowering plants, foliage plants, broadleaves, shrubs, trees, conifers

#### 1-8 quarts MBI-206 EP per acre

Bagworm, fall webworm, gypsy moth, elm spanworm, tent caterpillar, California oakworm, pine butterfly, spruce budworm, saddle prominent caterpillar, Douglas fir tussock moth, western tussock moth, fruittree leafroller, blackheaded budworm, mimosa webworm, jack pine budworm, saddleback caterpillar, greenstriped mapleworm, hemlock looper, pine tip moth, redhumped caterpillar, spruce budworm

#### 1-8 quarts MBI-206 EP per acre

Mites, aphids, whiteflies, lace bugs Stink bugs, black vine weevil - suppression

#### **Turfgrass and Ornamental grasses**

#### 1-8 quarts MBI-206 EP per acre

Armyworm, cutworm, sod webworm

#### 1-8 quarts MBI-206 EP per acre

Chinch bug, leafhoppers, annual bluegrass weevil and bluegrass billbug - suppression

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Use up product within 6 months of purchase.

Pesticide Storage: Store in a cool dry place. Avoid freezing.

Pesticioe Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry). Container Handling: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

ACRC Logo Placeholder

Marrone Bio Innovations is a member of the Ag Container Recycling Council.

Visit <a href="http://www.acrecycle.org/contact.html">http://www.acrecycle.org/contact.html</a> for information on how to arrange pick-up of this empty pesticide container.

# Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

### Sublabel C: Home & Garden Use

# **MBI-206 EP**

# (Alternate Names: VENERATE, VENERATE XC, VENERATE PTO)

#### **BIOLOGICAL INSECTICIDE**

(Can Be Used in Organic Gardening) (For Organic Gardening)(For Organic Lawn Care)(OMRI Placeholder)

\*Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

# KEEP OUT OF REACH OF CHILDREN CAUTION

# FIRST AID • Hold eye open and rinse slowly and gently with water for 15–20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice. HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14

Net Contents: XX (Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc.

2121 Second St., Suite B-107

Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

US Patents No. XXXXX

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Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

**EPA Est. No.:** XXXXX-XX-XXX

#### PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

**ENVIRONMENTAL HAZARDS:** To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

#### HOME AND GARDEN USE DIRECTIONS

MBI-206 EP is a biological insecticide containing killed cells and fermentation solids of *Burkholderia spp.* strain A396 for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect targets by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray.

To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. If you plan to release beneficial insects into your garden, consult with an extension specialist or with the product manufacturer prior to treating entire garden.

#### **DIRECTIONS FOR CONTROL OF FOLIAR PESTS**

#### WHEN TO USE

For best results, apply MBI-206 EP if pest species are present but before populations are causing visible damage.

#### **BEFORE YOU USE**

Read and follow these directions when using:

Do not allow spray to drift from application site.

Use only with pressurized hand-held sprayers or spray trigger bottles.

Do not allow spray mixture to stand overnight or for prolonged periods.

MBI-206 EP can be applied in commonly used pressurized hand-held sprayers, spray trigger bottles and hose-end sprayers.

#### HOW TO USE FOR HAND-HELD SPRAYERS AND SPRAY TRIGGER BOTTLES

Fill sprayer or bottle with appropriate amount of water and concentrate.

Mix the spray solution thoroughly.

Keep the spray solution agitated during application.

#### HOW TO USE FOR HOSE-END SPRAYERS

Follow hose-end sprayer instructions to determine how to fill, set dial, clean and disconnect from hose.

Set dial on sprayer to deliver rate as directed below.

#### HOW MUCH TO USE FOR ALL APPLICATIONS

2 tablespoons of MBI-206 EP per gallon of water

Some pesticides can cause phytotoxic effects ranging from slight burning or browning of leaves to distorted leaves, fruit, flowers or stems. Damage symptoms may vary with the type of plant that has been treated. It is impossible to test all plant species for phytotoxicity. To assure that the plants to be treated are not sensitive to the treatment, apply a small amount of the product to a few leaves or the above ground portion of the plant and check back in 2–4 days for signs of phytotoxicity. Use product according to label directions.

# INSECTS CONTROLLED OR SUPPRESSED ON VEGETABLES, FRUITS, NUTS, ORNAMENTAL PLANTS, TREES, SHRUBS, FLOWERS, FOLIAGE AND TROPICAL PLANTS

Alfalfa caterpillar

Alfalfa webworm

Adelaids

**Aphids** 

Armyworms

Cabbage looper

Chinch bugs

Codling moth

Corn earworm

Diamondback moth

Fruit files

Hornworms

Imported cabbageworm

Lace bucs

Leaf rollers

Leafhoppers

Light brown apple moth

Loopers

Mealybugs

Mites

Plant bugs

Plum curculio

Psyllids

Scales
Sharpshooters
Spittle bugs
Stink bugs
Tent caterpillars
Thrips
Tufted apple budworm
Webworms
Whiteflies

#### DIRECTIONS FOR SUPPRESSION OF SOIL-BORNE PESTS (EXCLUDING TURF)

For suppression of soil-borne pests, including seed maggots, wireworms, symphylans, cutworms, white grubs and plant-parasitic nematodes, apply MBI-206 EP as a soil drench directly into the seed furrow. Mix MBI-206 EP at rate of 5 tablespoons per gallon of water, and apply the mixture at the rate of 1 quart (32 fluid ounces) per 25 feet of row. For individual plants, such as tomatoes and peppers, apply the mixture as a soil drench at the rate of 4 fluid ounces per plant.

#### **DIRECTIONS FOR SUPPRESSION OF PESTS OF TURF**

Bluegrass billbug, annual bluegrass weevil, chinch bugs, armyworm, webworms, and cutworms

Mix MBI-206 EP at the rate of 5 tablespoons per gallon of water, and apply to turf with a pressurized sprayer at the rate of 1 gallon per 250 square feet of turf.

#### Plant parasitic nematodes

Mix 5 tablespoons MBI-206 EP per gallon of water, and apply at the rate of 1 gallon per 250 square feet of turf. For best control, thoroughly irrigate following application to moisten the top inch of soil. There should be no more than ½ inch of thatch present at the time of application. Under dry conditions where thatch is present, pre-watering is recommended prior to application.

For control of bluegrass billbug, annual bluegrass weevil, chinch bugs, armyworm, webworms, and cutworms it is not necessary to irrigate following application.

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Use up product within 6 months of purchase.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal and Container Handling: Nonrefillable container. Do not reuse or refili this container. If empty: Place in trash and offer for recycling if available.

If partially filled: Call your local solid waste agency or (800) 858-7378 (National Pesticide Information Center) for disposal instructions. Never place unused product down any indoor or outdoor drain.

# Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.



#### U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs

Biopesticides and Pollution Prevention Division (7511C) 1200 Pennsylvania Avenue NW

Washington, DC 20460

NOTICE	OF	PEST	ICIDE:

X

Registration

Reregistration

(under FIFRA, as amended)

EPA Reg. Number:

Date of Issuance:

84059-14

FEB 28 2014

Term of Issuance:

Unconditional

Name of Pesticide Product:

MBI-206 EP (Alternate Name: VENERATE<sup>TM</sup>)

Name and Address of Registrant (include ZIP Code):

Marrone Bio Innovations, Inc.

2121 Second Street, Suite B-107

Davis, California 95618

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on her motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This registration does not eliminate the need for continual reassessment of the pesticide. If the EPA determines at any time that additional data are required to maintain in effect an existing registration, the Agency will require submission of such data under section 3(c)(2)(B) of FIFRA. This product is unconditionally registered in accordance with FIFRA Sec. 3(c)(5) and is subject to the following terms:

- 1. Submit and/or cite all data required for registration of your product under FIFRA section 3(c)(5) and section 4 when the Agency requires all registrants of similar products to submit such data.
- 2. Revise the EPA Registration Number to read, "EPA Reg. No. 84059-14."
- 3. Submit studies on Storage Stability and Corrosion Characteristics for one year and 18 months in duration.
- 4. Within one year of registration, submit studies on the identity (e.g., IUPAC names and CAS numbers) and the amounts of the bioactive metabolites produced during the manufacture of heat-killed Burkholderia spp. strain A396 cells and spent fermentation media. Please provide this information for each batch of material produced during the next 12 months.
- 5. Submit three (3) copies of the revised final printed labeling before you release the product for shipment.

A stamped copy of the label and an A-79 Enclosure are enclosed for your records.

RME Mally

Signature of Approving Official:

Date

2/28/14

Robert McNally, Director

Biopesticides and Pollution Prevention Division (7511P)

## **MBI-206 EP**

(Alternate Names: VENERATE, VENERATE XC, VENERATE PTO)

**MASTER LABEL, containing:** 

**Sublabel A: Agricultural Crop Use** 

Sublabel B: Turf & Ornamental Use

Sublabel C: Home & Garden Use

EPA Reg. No.: 84059-14

Manufactured by: Marrone Bio Innovations, Inc.

2121 Second St., Suite B-107

Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

# **ACCEPTED**

· Tagangan in

Garage Control

FFB 2.8 MI/4 Under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 1940 59 - 14

## Sublabel A: Agricultural Crop Use

# MBI-206 EP (Alternate Names: VENERATE, VENERATE XC)

#### **BIOLOGICAL INSECTICIDE**

(Can Be Used in Organic Production) (For Organic Production)(OMRI Placeholder)

Active Ingredient: Heat-killed Burkholderia spp. strain A396 cells and spent fermentation media 94.46%

Other ingredients: 5.54%

Total: 100.00%

\*Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. <u>Note</u>: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

# KEEP OUT OF REACH OF CHILDREN CAUTION

# FIRST AID • Hold eye open and rinse slowly and gently with water for 15–20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice. HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14

Net Contents: XX (Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc. 2121 Second St., Suite B-107

Davis, CA 95618 USA

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US Patents No. XXXXX

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Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

**EPA Est. No.:** XXXXX-XX-XXX

#### PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks. Mixers / loaders and applicators must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS:** When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handing this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, *including those used in Integrated Pest Management (IPM) programs or organic agriculture.* 

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

#### **Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water), is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

**EXCEPTION:** If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

#### PRODUCT INFORMATION

MBI-206 EP is a biological insecticide containing killed cells and fermentation solids of *Burkholderia spp.* strain A396 for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect pests by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional insecticide spraying.

MBI-206 EP can be used in either the field or greenhouse for the control of any labeled pest.

#### GENERAL USE INSTRUCTIONS - FOR INSECT CONTROL

MBI-206 EP is an insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae, nymphs or immature pests is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. For some crops, directed drop nozzles by ground machine are required.

Under heavy pest populations, use the higher label rates, shorten the spray interval, increase the spray volume to improve coverage, and/or apply in tank mixture with another product that has activity on the target pest.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

Adjuvants may be used to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed crop canopy, dense foliage and penetration into waxy leaf surfaces.

Bees and beneficial insects:

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- To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.
- Do not allow product to drift to blooming crops or weeds if bees are foraging.
- Minimize spray drift away from the target area to reduce effects to other non-target insects.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. Prior to treating entire crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

MBI-206 EP has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

# **GROUND AND AERIAL APPLICATION**

Apply MBI-206 EP in ground and aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

# Mixing directions

**Important** –Fill tank ½ to ¾ of desired amount of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-206 EP. Add the desired volume of MBI-206 EP to the mix tank and the remaining volume of water and continue circulation. Maintain circulation while loading and spraying. Do not mix more MBI-206 EP than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

#### Tank mixing

Do not combine MBI-206 EP in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables second, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can readily be remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

# **Row Crop Application**

Use calibrated power-operated ground equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. A minimum of 10 gallons per acre by ground or 5 gallons by aerial application should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, disc core/hollow cone or twin jet flat fan nozzles suitable for insecticide spraying. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and

spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition to reduce drift.

# **Orchard Spraying**

- Dilute spray application: This application method is based on the premise that all plant parts are thoroughly wetted, to the point of runoff, with spray solution. To determine the number of gallons of dilute spray per acre, contact your extension specialist, state agricultural experiment station, or certified pest control advisor for assistance.
- Concentrate spray application: This application method is based on the premise that all plant
  parts are uniformly covered with spray solution but not to the point of runoff as with a dilute
  spray. Instead, a lower spray volume is used to deliver the same application rate of product per
  acre as is used for the dilute spray.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

#### AERIAL APPLICATION AND DRIFT REDUCTION ADVISORY INFORMATION

**General:** Apply in a spray volume of 5 or more gallons per acre on row crops and 10 or more gallons per acre on tree or orchard crops. Insect control by aerial application may be less than control by ground application because of reduced coverage.

**Spray drift**: Avoiding spray drift at the application site is the responsibility of the applicator. The Interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

**Information on droplet size**: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that will provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling droplet size: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Number of nozzles - Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Use low-drift nozzles, such as solid stream nozzles that are oriented straight back to produce the largest droplets and the lowest drift.

**Boom width**: For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3–10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for

standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

**Application height**: Do not make application at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure to droplets to evaporation and wind.

**Swath adjustment:** When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2–10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature inversions:** Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive areas:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals. Do not allow product to drift to blooming crops or weeds if bees are foraging. Minimize spray drift away from the target area to reduce effects to other non-target insects.

#### SEED TREATMENT APPLICATION

MBI-206 EP can be applied as a seed dressing at plant or in commercial seed treatments for suppression of insect and nematode damage. Apply MBI-206 EP as a water-based slurry with other registered seed treatment insecticides, nematicides and fungicides through standard slurry- or mist-type commercial seed treatment equipment.

**Mixing instructions:** Prepare no more mixture than is required for the immediate operation. Agitate the solution continuously during mixing and application. Mechanical mixing is recommended for proper mixing of MBI-206 EP mixtures. For seed treatment, apply 8 ounces of MBI-206 EP per 100 pounds of seed.

MBI-206 EP alone: Add ½ of the required amount of water to the mix tank. With the agitator running, add the MBI-206 EP to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the MBI-206 EP has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

MBI-206 EP + tank-mixtures: Add ½ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process.

**Note:** When using MBI-206 EP in tank-mixtures, all products in water soluble packaging should be added to the tank before any other tank-mix partner, including MBI-206 EP. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank-mix partner to the tank.

If using MBI-206 EP in a tank mixture with other seed treatment products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations that appear on the tank-mix partner label. No label dosage may be exceeded and the most restrictive label precautions and limitations must be followed. This product should not be mixed with any product which prohibits such mixing.

For Pre-plant Seed Treatment: Treat only those seeds needed for immediate use, minimizing the interval between treatment and planting. Do not store excess treated seeds beyond planting time.

**For Commercial Seed Treatment:** The active ingredient Heat-killed *Burkholderia spp.* Strain A396 cells and spent fermentation media is exempt from the requirement of a tolerance for residues in and on all food commodities. Commercial seed treaters are not required to add a dye to this product before treating seed. Treated seed can be used for or mixed with food or animal feed, or processed for oil.

#### SOIL TREATMENT USE DIRECTIONS

MBI-206 EP can be applied by soil drench, in-furrow spray, or soil injection to protect against certain soil-borne insects or nematodes.

In general, MBI-206 EP can be applied by the following methods, unless specified differently in the SELECTED CROPS section:

**Soil Drench Applications:** Apply MBI-206 EP at a concentration of 1–8 quarts per 100 gallons of water and at a sufficient rate to thoroughly soak the growing media and root zone. Multiple drench applications can be made on a 10–14 day interval for insect control treatments. Nematode control treatments are limited to pre-plant or at-plant soil drench applications.

**Shanked-In and Injected Applications:** MBI-206 EP can be shanked-in or injected into the soil alone, or with most types of liquid nutrients. Use a jar test to confirm physical compatibility prior to application.

**In-Furrow Applications:** At planting, apply MBI-206 EP as an in-furrow spray or as a 5-7 inch band (T-band) over an open furrow at the rate of 1–8 quarts per acre, or 7.3–19.6 fluid ounces per 1000 feet of row, according to the chart below. Apply MBI-206 EP in 5–20 gallons of water per acre so as the spray is directed over the seed furrow just before the seeds are covered.

Rate	In-Furrow and T-band Application Rates Product per 1000 ft. row.					
	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows
1–8 quarts MBI-206 EP per acre	7.3–14.7	7.8–15.7	8.3–16.7	8.8–17.6	9.3–18.6	9.8–19.6

30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

#### CHEMIGATION USE - DIRECTIONS FOR INSECT CONTROL

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand moved irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

#### Spray preparation

First prepare a suspension of MBI-206 EP in a mix tank. Fill tank ½ to ¾ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine MBI-206 EP with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. MBI-206 EP has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

#### **General Requirements**

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

# Specific Requirements for Chemigation Systems Connected to Public Water Systems

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

# **Specific Requirements for Sprinkler Chemigation**

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoidoperated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

# **Application Instructions for All Types of Chemigation**

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

# SHAKE WELL BEFORE USE

# FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF INSECTS AND MITES

Pre-harvest Interval (PHI) = 0 days

# **Asparagus**

# 1-8 quarts MBI-206 EP per acre

Armyworms

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, Stink bugs

#### **Bananas**

# 1-4 quarts MBI-206 EP per acre

Banana skipper,

# 1-8 quarts MBI-206 EP per acre (Suppression)

Stink bugs

#### **Bulbs**

Leek, Garlic and onion (bulb and green)

# 1-8 quarts MBI-206 EP per acre

Loopers, omnivorous leafrollers, hornworm, imported cabbageworm, diamondback moth, green cloverworm, webworm, saltmarsh caterpillar, armyworms, cutworm, cross-striped cabbageworm, *Heliothis* 

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips

# **Bushberries**

Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Ligonberry, Salal

1-8 quarts MBI-206 EP per acre

Armyworms, cherry fruitworm, cranberry fruitworm, fireworms, leafrollers, loopers

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, blueberry blossom weevil Stink bugs

# Caneberries

Blackberry, Loganberry, Red and Black Raspberry, and Cultivars and/or hybrids of these

# 1-8 quarts MBI-206 EP per acre

Armyworms, green fruitworm, leafrollers, loopers, western raspberry fruitworm

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, stink bugs

#### **Cereal Grains**

Barley, Buckwheat, Grain Amaranth, Milo, Oats, Pearl Millet, Proso Millet, Rye, Sorghum, Triticale, Wheat

# 1-8 quarts MBI-206 EP per acre

Armyworms, corn earworm (headworm), southwestern corn borer, web worms

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids (including greenbug), thrips, chinch bugs, mites

#### Citrus

Grapefruit, Lemons, Limes, Oranges, Tangerines

#### 1-8 quarts MBI-206 EP per acre

Fruittree leafroller, orangedog, citrus cutworm, citrus leafminer

# 1-8 quarts MBI-206 EP per acre

Citrus rust mite, Asian citrus psyllid.

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, Florida red scale, twospotted spider mite, Texas citrus mite, citrus red mite, six-spotted mite, citrus thrips, mealybugs Stink bugs

#### Cranberry

# 1-8 quarts MBI-206 EP per acre

Armyworms, leafrollers, fireworms, loopers, sparganothis fruitworm,

#### 1-8 guarts MBI-206 EP per acre (Suppression)

Aphids, thrips, mites, cranberry blossom weevil

# **Cole Crops**

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

1-8 quarts MBI-206 EP per acre

Diamondback moth, cabbage looper, imported cabbageworm, cabbage webworm, armyworms

# 1-8 quarts MBI-206 EP per acre (Suppression)

Whiteflies, thrips, aphids, leafhoppers, plant bugs, mites, billbugs Swede midge and stink bugs

#### Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

# 1-8 quarts MBI-206 EP per acre

Armyworm, European corn borer, southwestern corn borer, western bean cutworm, corn earworm,

#### 1-8 guarts MBI-206 EP per acre (Suppression)

Corn leaf aphid, mites, leafhoppers Stink bugs

#### Cotton

# 1-8 quarts MBI-206 EP per acre

European corn borer, cotton bollworm, tobacco budworm, loopers (soybean and cabbage), saltmarsh caterpillar, armyworms

# 1-8 quarts MBI-206 EP per acre (Suppression)

Cotton aphid, leafhoppers, thrips, mites, Lygus Stink bugs

#### **Cucurbit Vegetables**

Cucumber, edible gourds, muskmelon (cantaloupe, muskmelon, etc.), pumpkin, watermelon, winter and summer squash

# 1-8 quarts MBI-206 EP per acre

Armyworm, cabbage looper, melonworm, pickleworm, rindworm complex

# 1-8 quarts MBI-206 EP per acre (Suppression)

Silverleaf whitefly, whiteflies, aphids, thrips, mites Stink bugs

#### Fig

# 1-8 quarts MBI-206 EP per acre

Navel orangeworm

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, Stink bugs

#### Fruiting Vegetables

Tomato, Tomatillo, Pepper, Ground Cherry, Pepino, Okra and Eggplant

#### 1-8 quarts MBI-206 EP per acre

Loopers, hornworm, tomato fruitworm, variegated cutworm, saltmarsh caterpillar, armyworm, tomato pinworm, European corn borer

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mites, *Lygus*, pepper weevil, whiteflies, plant bugs, psyllids, thrips Stink bugs

# Grape

# 1-8 quarts MBI-206 EP per acre

Grape leaf skeletonizer, grape leafroller, omnivorous leafroller, orange tortrix, oblique banded leafroller, grape berry moth

# 1-8 quarts MBI-206 EP per acre (Suppression)

Pacific spider mite, Willamette Spider Mite, twospotted spider mite, mealybugs, whiteflies, thrips Stink bugs

Herbs, Spices and Mints (outdoor or enclosed, including those grown as bedding plants)

Angelica, balm, basil, borage, burnet, chamomile, catnip, chervil, chive, clary, coriander, costmary, cilantro, curry, dillweed, horehound, hyssop, lavender, lemongrass, lovage, marjoram, nasturtium, parsley (dried), peppermint, rosemary, sage, savory (summer and winter), sweet bay, tansy, tarragon, thyme, wintergreen, woodruff and wormwood

#### 1-8 quarts MBI-206 EP per acre

Loopers, saltmarsh caterpillar and armyworm

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies and mites

#### **Hops and Dried Cones**

# 1-8 quarts MBI-206 EP per acre

Armyworms, loopers

# 1-8 quarts MBI-206 EP per acre (Suppression)

Hops, aphid, thrips, whiteflies and mites

#### Leafy Vegetables and Leaves of Root and Tuber and Legume Vegetables

Arugula, Beets, Celery, Chervil, Cilantro, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Garden Peas, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Turnip Greens and Watercress

# 1-8 quarts MBI-206 EP per acre

Cabbage looper, diamondback moth, armyworms

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, whiteflies, thrips, psyllids, mites Stink bugs

# Oil Crops

Canola, Safflower, Sunflower (including sunflower grown for seed)

#### 1-8 quarts MBI-206 EP per acre

Armyworm, diamondback moth, looper, saltmarsh caterpillar, Heliothis, headworm

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

# **Pineapple**

# 1-8 quarts MBI-206 EP per acre

Gummosos-Batracheda Comosae (Hodges), Thecla-Thecla Basilides (Geyr)

#### Pome Fruit

Apples, Crabapple, Loquat, Mayhaw, Pears and Quince

# 21-8 quarts MBI-206 EP per acre

Pear psyllid, Plum curculio

# 1-8 quarts MBI-206 EP per acre (Suppression)

Stink bugs

# **Pomegranate**

# 1-8 quarts MBI-206 EP per acre

Walnut caterpillar, cankerworm, gypsy moth, variegated leafroller, redbanded leafroller, tufted apple budmoth, fruittree leafroller, oriental fruit moth, cutworm, filbert leafroller, oblique banded leafroller, codling moth, armyworm and twig borer.

# 1-8 quarts MBI-206 EP per acre (Suppression)

European red mite, twospotted red mite, Pacific spider mite, McDaniel spider mite

# Potatoes and Tuberous and Corm Vegetables

Artichoke, Cassava, Chayote Root, Chinese Artichoke, Garden Beet, Ginger, Jerusalem Artichoke, Potatoes, Sugar Beet, Sweet Potatoes, Turmeric and Yams

# 1-8 quarts MBI-206 EP per acre

Armyworms, artichoke plume moth, European corn borer, loopers

# 1-8 quarts MBI-206 EP per acre

Psyllids.

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, potato aphid, whiteflies Stink bugs.

# **Root Vegetables**

Black Salsify, Carrot, Celeriac, Chicory, Edible Burdock, Ginseng, Horseradish, Parsnip, Radish, Oriental Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Turnip, Turnip-rooted Chervil, and Turnip Rooted Parsley

# 1-8 quarts MBI-206 EP per acre

Armyworms, European corn borer, loopers

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### **Shade and Ornamental Trees and Forests**

#### 1-8 quarts MBI-206 EP per acre

Gypsy moth, elm spanworm, tent caterpillar, California oakworm, pine butterfly, spruce budworm, saddle prominent caterpillar, Douglas fir tussock moth, western tussock moth, fruittree leafroller, blackheaded budworm, mimosa webworm, jack pine budworm, saddleback caterpillar, greenstriped mapleworm, hemlock looper

#### 1-8 quarts MBI-206 EP per acre (Suppression)

Mites, aphids, whiteflies, lace bugs Stink bugs

# Soybean

#### 1-8 quarts MBI-206 EP per acre

Loopers, soybean looper, cabbage looper, green cloverworm, veletbean caterpillar, armyworm, podworm, corn earworm

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, soybean aphid, potato leafhopper, leafhoppers, whiteflies, mites, thrips, kudzu bug

# **Stone Fruits**

# Apricots, Cherry, Nectarine, Peach, Plum, Prune

# 1-8 quarts MBI-206 EP per acre

Green fruitworm, leafrollers (including oblique-banded, fruit tree, pandemic, redbanded, variegated), oriental fruit moth, redhumped caterpillar, tent caterpillar, peach twig borer,

Application timing: optimal timing for peach twig borer and leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. Use a 7–10-day re-treatment schedule to maintain control if the crop is growing rapidly or if there is heavy pest pressure. Use a 3–4-day re-treatment schedule at flowering.

# 1-8 quarts MBI-206 EP per acre

Plum curculio

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, mealybugs, thrips, whiteflies, mites, Stink bugs

# Strawberry

# 1-8 quarts MBI-206 EP per acre

Armyworms and leafrollers

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, Lygus, plant bugs, whiteflies, mites Stink bugs

#### Tobacco

# 1-8 quarts MBI-206 EP per acre

Hornworm, tobacco budworm, looper

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### Tree Farms and Plantations

#### Conifers, Including Christmas Trees and Deciduous Trees

# 1-8 quarts MBI-206 EP per acre

Bagworm, fall webworm, gypsy moth, hemlock looper, jackpine budworm, pine tip moth, redhumped caterpillar, spruce budworm, tent caterpillar, tussock moths

#### **Tree Fruits**

Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilama, Jaboticaba, Kiwi, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Ti Palm Leaves, Wax Jambu (Wax Apple), White Sapote

# 1-8 quarts MBI-206 EP per acre

Avocado leafroller, citrus peelminer, cutworms, fruit tree leafroller, omnivorous leafroller, orange tortrix, western tussock moth

# 1-8 quarts MBI-206 EP per acre (Suppression)

Aphids, thrips, whiteflies, mites

#### Tree Nuts and Pistachios

Almond, Cashew, Chestnut, Filbert (Hazelnut), Macadamia, Pecan, Pistachio, Walnut

# 1-8 quarts MBI-206 EP per acre

Fall webworm, filbert worm, hickory shuckworm, navel orange worm, oblique banded leafroller, peach twig borer, pecan nut casebearer, redhumped caterpillar

# 1-8 quarts VENERATE™ per acre (Suppression)

Aphids, mealybugs, whiteflies,

# FOR USE ON THE FOLLOWING CROPS FOR CONTROL OF SPECIFIED NEMATODES:

Pre-harvest interval (PHI) = 0 days

#### Brassica (Cole) Leafy Vegetables

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, and Rape Greens

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes.

#### **Bulb Vegetables**

Leek, Garlic, Onion (Bulb and Green) and Shallot

1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes.

# Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

# 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray in 5 to 20 gallons per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Seed Treatment for Corn

For suppression of plant-parasitic nematodes, apply 8 ounces of VENERATE™ per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

#### Cotton

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray in 5 to 20 gallons per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Seed treatment for Cotton

For suppression of plant-parasitic nematodes, apply 8 ounces of MBI-206 EP per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

Root Knot Nematodes and reniform nematodes

#### **Cucurbit Vegetables**

Cucumber, Edible Gourds, Muskmelon, Cantaloupe, Pumpkin, Watermelon, and Winter and Summer Squash

# 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

# **Fruiting Vegetables**

Tomato, Tomatillo, Pepper, Groundcherry, Pepino, Okra and Eggplant

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray

in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

# **Leafy Vegetables**

Arugula, Celery, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach and Swiss Chard

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

## Soybean

# 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, apply MBI-206 EP as an in furrow or T-band spray in 5 to 20 gallons per acre according to the SOIL TREATMENT USE DIRECTIONS. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

#### Seed treatment for Soybean

For suppression of plant-parasitic nematodes, apply 8 ounces of MBI-206 EP per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

# **Root and Tuber Vegetables**

Artichoke, Black Salsify, Carrot, Cassava, Celeriac, Chayote Root, Chicory, Chinese Artichoke, Edible Burdock, Garden Beet, Ginger, Ginseng, Horseradish, Jerusalem Artichoke, Oriental Radish, Parsnip, Potatoes, Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Sugar Beet, Sweet Potatoes, Turnip, Turnip-rooted Chervil, Turnip-rooted Parsley and Yams

#### 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per  $\frac{1}{2}$  acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

# Strawberry

# 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per  $\frac{1}{2}$  acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

#### Tobacco

# 1-8 quarts MBI-206 EP per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant only in furrow drench application in 50 to 75 gallons of water per ½ acre (100 to 150 gallons of water per acre) or as an in furrow spray in 5 to 20 gallons per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting and Stunt Nematodes

# STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Use up product within 6 months of purchase.

Pesticide Storage: Store in a cool dry place. Avoid freezing.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry). Container Handling: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

# ACRC Logo Placeholder

Marrone Bio Innovations is a member of the Ag Container Recycling Council.

Visit <a href="http://www.acrecycle.org/contact">http://www.acrecycle.org/contact</a> for information on how to arrange pick-up of this empty pesticide container.

# Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

# Sublabel B: Turf & Ornamental Use

# **MBI-206 EP**

# (Alternate Names: VENERATE, VENERATE XC, VENERATE PTO)

**BIOLOGICAL INSECTICIDE** 

(Can Be Used in Organic Production) (For Organic Production)(For Organic Lawn Care)(OMRI Placeholder)

Active Ingredient: Heat-killed Burkholderia spp. strain A396 cells and spent

Other ingredients: 5.54%

\*Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. <u>Note</u>: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

# KEEP OUT OF REACH OF CHILDREN CAUTION

# FIRST AID Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

#### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

**EPA Reg. No.:** 84059-14

Net Contents: XX (Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc. 2121 Second St., Suite B-107 Davis. CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

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Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

**EPA Est. No.:** XXXXX-XX-XXX

# PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks. Mixers / loaders and applicators not in enclosed cabs or aircraft must wear a dust / mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handing this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwaters or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, *including those used in Integrated Pest Management (IPM) programs or organic agriculture.* 

# **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Keep unprotected persons out of treated areas until sprays have dried.

#### PRODUCT INFORMATION

MBI-206 EP is a biological insecticide containing killed cells and fermentation solids of *Burkholderia spp.* strain A396 for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect pests by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional insecticide spraying.

# **GENERAL USE INSTRUCTIONS – FOR INSECT CONTROL**

MBI-206 EP is an insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. MBI-206 EP does not have systemic activity.

Under heavy pest populations, use the higher label rates, shorten the spray interval, increase the spray volume to improve coverage, and/or apply in tank mixture with another product that has activity on the target pest.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

Adjuvants may be used to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed canopy, dense foliage and penetration into waxy leaf surfaces.

#### Bees and beneficial insects:

- To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.
- Do not allow product to drift to blooming crops or weeds if bees are foraging.
- Minimize spray drift away from the target area to reduce effects to other non-target insects.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. Prior to treating an entire field or crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

MBI-206 EP has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

#### Mixing directions

**Important** – Do not add MBI-206 EP to the mix tank before introducing the desired amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-206 EP. Add the desired volume of MBI-206 EP to the mix tank and continue circulation. Maintain circulation while loading and spraying. Do not mix more MBI-206 EP than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

#### Tank mixing

Do not combine MBI-206 EP in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first,

then flowables, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

#### **GROUND APPLICATION**

Apply MBI-206 EP in ground equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage. For turf applications, apply MBI-206 EP in a minimum of 1.5 gallons of water per 1000 square feet (65 gallons water per acre). For foliar applications using broadcast application equipment apply MBI-206 EP in a minimum of 30 gallons of water per acre. For dilute applications to bedding plants, trees and shrubs, apply MBI-206 EP at a dilution of 2 to 8 quarts per 100 gallons of water. Use of a quality surfactant will aid performance. Do not use carrier volumes and/or adjuvants that create spray runoff or drip-accumulation at the base of the commercial commodity.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

#### CHEMIGATION USE - DIRECTIONS FOR INSECT CONTROL

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

#### Spray preparation

First prepare a suspension of MBI-206 EP in a mix tank. Fill tank ½ to ¾ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine MBI-206 EP with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. MBI-206 EP has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

# **General Requirements**

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

# Specific Requirements for Chemigation Systems Connected to Public Water Systems

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

# **Specific Requirements for Sprinkler Chemigation**

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

# **Application Instructions for All Types of Chemigation**

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

# SHAKE WELL BEFORE USE FOR USE ON THE FOLLOWING SITES FOR CONTROL OF INSECTS AND MITES

#### **Ornamentals**

Including: Flowering plants, foliage plants, broadleaves, shrubs, trees, conifers

#### 1-8 quarts MBI-206 EP per acre

Bagworm, fall webworm, gypsy moth, elm spanworm, tent caterpillar, California oakworm, pine butterfly, spruce budworm, saddle prominent caterpillar, Douglas fir tussock moth, western tussock moth, fruittree leafroller, blackheaded budworm, mimosa webworm, jack pine budworm, saddleback caterpillar, greenstriped mapleworm, hemlock looper, pine tip moth, redhumped caterpillar, spruce budworm

# 1-8 quarts MBI-206 EP per acre

Mites, aphids, whiteflies, lace bugs Stink bugs, black vine weevil - suppression

# **Turfgrass and Ornamental grasses**

#### 1-8 quarts MBI-206 EP per acre

Armyworm, cutworm, sod webworm

# 1-8 quarts MBI-206 EP per acre

Chinch bug, leafhoppers, annual bluegrass weevil and bluegrass billbug - suppression

# STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Use up product within 6 months of purchase.

**Pesticide Storage:** Store in a cool dry place. Avoid freezing.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry). Container Handling: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

ACRC Logo Placeholder

Marrone Bio Innovations is a member of the Ag Container Recycling Council.

Visit <a href="http://www.acrecycle.org/contact.html">http://www.acrecycle.org/contact.html</a> for information on how to arrange pick-up of this empty pesticide container.

# Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

# Sublabel C: Home & Garden Use

# **MBI-206 EP**

# (Alternate Names: VENERATE, VENERATE XC, **VENERATE PTO)**

# **BIOLOGICAL INSECTICIDE**

(Can Be Used in Organic Gardening) (For Organic Gardening)(For Organic Lawn Care)(OMRI Placeholder)

Active Ingredient: Heat-killed Burkholderia spp. strain A396 and spent fermentation media .......94.46% 

# **KEEP OUT OF REACH OF CHILDREN** CAUTION

# **FIRST AID** • Hold eye open and rinse slowly and gently with water for 15-20 minutes. If in eyes • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.

#### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14 **Net Contents: XX** 

(Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc.

2121 Second St., Suite B-107 Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

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EPA Est. No.: XXXXX-XX-XXX

<sup>\*</sup>Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized

# PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

**ENVIRONMENTAL HAZARDS:** To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects.

# DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

#### **HOME AND GARDEN USE DIRECTIONS**

MBI-206 EP is a biological insecticide containing killed cells and fermentation solids of *Burkholderia spp.* strain A396 for use on agricultural crops against the pests listed in the Directions for Use section. MBI-206 EP controls insect targets by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. MBI-206 EP controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and against many soft-bodied insects such as, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray.

To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.

MBI-206 EP has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. If you plan to release beneficial insects into your garden, consult with an extension specialist or with the product manufacturer prior to treating entire garden.

#### **DIRECTIONS FOR CONTROL OF FOLIAR PESTS**

#### WHEN TO USE

For best results, apply MBI-206 EP if pest species are present but before populations are causing visible damage.

#### **BEFORE YOU USE**

Read and follow these directions when using:

Do not allow spray to drift from application site.

Use only with pressurized hand-held sprayers or spray trigger bottles.

Do not allow spray mixture to stand overnight or for prolonged periods.

MBI-206 EP can be applied in commonly used pressurized hand-held sprayers, spray trigger bottles and hose-end sprayers.

# HOW TO USE FOR HAND-HELD SPRAYERS AND SPRAY TRIGGER BOTTLES

Fill sprayer or bottle with appropriate amount of water and concentrate.

Mix the spray solution thoroughly.

Keep the spray solution agitated during application.

# **HOW TO USE FOR HOSE-END SPRAYERS**

Follow hose-end sprayer instructions to determine how to fill, set dial, clean and disconnect from hose.

Set dial on sprayer to deliver rate as directed below.

#### HOW MUCH TO USE FOR ALL APPLICATIONS

2 tablespoons of MBI-206 EP per gallon of water

Some pesticides can cause phytotoxic effects ranging from slight burning or browning of leaves to distorted leaves, fruit, flowers or stems. Damage symptoms may vary with the type of plant that has been treated. It is impossible to test all plant species for phytotoxicity. To assure that the plants to be treated are not sensitive to the treatment, apply a small amount of the product to a few leaves or the above ground portion of the plant and check back in 2–4 days for signs of phytotoxicity. Use product according to label directions.

# INSECTS CONTROLLED OR SUPPRESSED ON VEGETABLES, FRUITS, NUTS, ORNAMENTAL PLANTS, TREES, SHRUBS, FLOWERS, FOLIAGE AND TROPICAL PLANTS

Alfalfa caterpillar

Alfalfa webworm

Adelgids

**Aphids** 

Armyworms

Cabbage looper

Chinch bugs

Codling moth

Corn earworm

Com earworm

Diamondback moth

Fruit flies

Hornworms

Imported cabbageworm

Lace bugs

Leaf rollers

Leafhoppers

Light brown apple moth

Loopers

Mealybugs

Mites

Plant bugs

Plum curculio

**Psyllids** 

Scales
Sharpshooters
Spittle bugs
Stink bugs
Tent caterpillars
Thrips
Tufted apple budworm
Webworms
Whiteflies

# DIRECTIONS FOR SUPPRESSION OF SOIL-BORNE PESTS (EXCLUDING TURF)

For suppression of soil-borne pests, including seed maggots, wireworms, symphylans, cutworms, white grubs and plant-parasitic nematodes, apply MBI-206 EP as a soil drench directly into the seed furrow. Mix MBI-206 EP at rate of 5 tablespoons per gallon of water, and apply the mixture at the rate of 1 quart (32 fluid ounces) per 25 feet of row. For individual plants, such as tomatoes and peppers, apply the mixture as a soil drench at the rate of 4 fluid ounces per plant.

#### DIRECTIONS FOR SUPPRESSION OF PESTS OF TURF

Bluegrass billbug, annual bluegrass weevil, chinch bugs, armyworm, webworms, and cutworms

Mix MBI-206 EP at the rate of 5 tablespoons per gallon of water, and apply to turf with a pressurized sprayer at the rate of 1 gallon per 250 square feet of turf.

# Plant parasitic nematodes

Mix 5 tablespoons MBI-206 EP per gallon of water, and apply at the rate of 1 gallon per 250 square feet of turf. For best control, thoroughly irrigate following application to moisten the top inch of soil. There should be no more than ½ inch of thatch present at the time of application. Under dry conditions where thatch is present, pre-watering is recommended prior to application.

For control of bluegrass billbug, annual bluegrass weevil, chinch bugs, armyworm, webworms, and cutworms it is not necessary to irrigate following application.

# STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Use up product within 6 months of purchase.

Pesticide Storage: Store in a cool, dry place.

**Pesticide Disposal and Container Handling:** Nonrefillable container. Do not reuse or refill this container. **If empty:** Place in trash and offer for recycling if available.

**If partially filled:** Call your local solid waste agency or (800) 858-7378 (National Pesticide Information Center) for disposal instructions. Never place unused product down any indoor or outdoor drain.

# Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

# **NEW APPLICATIONS**

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Risk Manager:	Biologicals & Pollutio	on Prevention Division	n, PM Team 92		ΙŦ	]			
Product#:	84059-RU Pro	oduct Name; MBI-206	iEP						
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		DATA MATRIX				
Applicant's/Registrant Name and Address Marrone Bio Innovations, 2121 Second Street, Suite B-107, Davis, CA 95618			EPA Reg. No./File Symbo 84059-14	<u> – –                               </u>	Page 1 of 5	
			Product MBI-206 EP			
<del></del>	deria sp. strain A396 cells and spent fermentation medi	a	INDI-200 EI	·—		
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status Note		
OCSPP 885.1100	Product Identity-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
OCSPP 885.1200	Manufacturing Process-EP	482128-01 487685-01 490288-01	Marrone Bio Innovations	OWN		
OCSPP 885.1300	Discussion of the Formation of Unintentional Ingredients-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
OCSPP 885.1400	Analysis of Samples-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
OCSPP 885.1500	Certification of Limits-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
OCSPP 830.6302	Color-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
OCSPP 830.6303	Physical State-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
Signature			Name and Title Keith Pitts, VP-Regulatory	Affairs	Date January 9, 2014	

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Applicant's/Registrant Name and Address Marrone Bio Innovations, 2121 Second Street, Suite B-107, Davis, CA 95618 Ingredient: Heat-killed Burkholderia sp. strain A396 cells and spent fermentation media			EPA Reg. No./File Symbo 84059-14	7	Page 2 of 5	
			Product MBI-206 EP			
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note	
DCSPP 830.6304	Odor-EP	482128-01 487685-01	Marrone Bio Innovations	OWN	1	
DCSPP 830.6313	Stability at Normal and Elevated Temperatures, Metals and Metal Ions-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
OCSPP 830.6317	Storage Stability-EP	482128-01 487685-01 488311-01 489833-05	Marrone Bio Innovations	OWN		
OCSPP 830.6319	Miscibility-EP	482128-01 487685-01	Marrone Bio Innovations	OWN	1	
DCSPP 830.6320	Corrosion Characteristics-EP	482128-01 487685-01 488311-01 489833-05	Marrone Bio Innovations	OWN		
OCSPP 830.7000	PH-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
OCSPP 830.7100	Viscosity-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
OCSPP 830.7300	Bulk Density-EP	482128-01 487685-01	Marrone Bio Innovations	OWN		
Signature			Name and Title Keith Pitts, VP-Regulatory	Affairs	Date January 9, 2014	

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#### send the form to this address. DATA MATRIX Date January 9, 2014 EPA Reg. No./File Symbol Page 3 of 5 84059-14 Applicant's/Registrant Name and Address Product Marrone Bio Innovations. 2121 Second Street, Suite B-107, Davis, CA 95618 MBI-206 EP Ingredient: Heat-killed Burkholderia sp. strain A396 cells and spent fermentation media MRID Number Guideline Reference Number **Guideline Study Name** Submitter Status Note 487458-18 OWN Data submitted for TGAL OCSPP 885.3050 Acute Oral Toxicity/Pathogenicity Marrone Bio Innovations

OCSPP 885.3150	Acute Pulmonary Toxicity/Pathogenicity	487458-18	Marrone Bio Innovations	OWN	Data submitted for TGAI
OCSPP 885.3200	Acute Injection Toxicity/Pathogenicity	482127-08 482127-09 488310-01 488310-02 489833-02	Marrone Bio Innovations	OWN	Data submitted for TGAI
Not applicable	Subcutaneous Mouse Safety Study	482127-10	Marrone Bio Innovations	OWN	Data submitted for TGAI
Not applicable	Hypersensitivity Incidents	487458-18	Marrone Bio Innovations	OWN	Data submitted for Tr
OCSPP 885.3500	Cell Culture	487458-18	Marrone Bio Innovations	OWN	Data submitted for TGAI
OCSPP 870.1100	Acute Oral Toxicity -EP	482128-03 491737-01	Marrone Bio Innovations	OWN	<b>-</b>
OCSPP 870.1200	Acute Dermal Toxicity -EP	482128-03 491737-02	Marrone Bio Innovations	OWN	
OCSPP 870.1300	Acute Inhalation Toxicity -EP	482128-03 491737-03	Marrone Bio Innovations	OWN	
OCSPP 870.2400	Primary Eye Irritation-EP	482128-03 491737-04	Marrone Bio Innovations	OWN	
OCSPP 870.2500	Primary Dermal Irritation Study in Rabbits-EP	482128-03 491737-05	Marrone Bio Innovations	OWN	
OCSPP 870.2600	Dermal Sensitization - EP	491737-06	Marrone Bio Innovations	OWN	
			Name and Title Keith Pitts, VP-Regulatory	Affairs	Date January 9, 2014

Signature

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#### DATA MATRIX Date January 9, 2014 EPA Reg. No./File Symbol Page 4 of 5 84059-14 Applicant's/Registrant Name and Address Product Marrone Bio Innovations, 2121 Second Street, Suite B-107, Davis, CA 95618 MBI-206 EP

Ingredient: Heat-killed Burkholderia sp. strain A396 cells and spent fermentation media

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
OECD 476	Reverse Mutation in Five Histidine-requiring Strains of Salmonella typhimurium using a treat and plate methodology (Ames-Genotoxicity)-MBI-206 EP Cell Lysate	491719-01	Marrone Bio Innovations	OWN	Data submitted for TGAI
			ĺ		
OCSPP 885.4050	Avian Oral Toxicity-Bobwhite Quail - EP	487459-01 491737-07	Marrone Bio Innovations	OWN	<del> </del>
OCSPP 885.4100	Avian Inhalation Toxicity/Pathogenicity-EP	487458-18	Marrone Bio Innovations	OWN	Data submitted for TGAI
OCSPP 885.4150	Wild Mammal Toxicity/Pathogenicity-EP	487458-18 488310-01 488310-02	Marrone Bio Innovations	OWN	Data submitted for TGAI
OCSPP 885.4200	Freshwater Fish Toxicity/Pathogenicity – EP	486258-01 487459-01 491737-09	Marrone Bio Innovations	OWN	
OCSPP 885.4240	Freshwater Invertebrate Toxicity/Pathogenicity-Daphnia magna-EP	487459-01 491737-08	Marrone Bio Innovations	OWN	
OCSPP 885.4280	Estuarine/Marine Invertebrate Toxicity/PathogenicityEP	487458-18	Marrone Bio Innovations	OWN	Data submitted for TGAI
OCSPP 885.4300	Nontarget Plant Testing-EP	482128-02 482128-03 491737-10	Marrone Bio Innovations	OWN	
OCSPP 885.4340	Nontarget Insect Testing-Parasitic Wasp-EP	487458-04 487459-01 491737-13	Marrone Bio Innovations	OWN	
OCSPP 885.4340	Nontarget Insect Testing-Green Lacewing-EP	487459-01	Marrone Bio Innovations	OWN	
OCSPP 885.4340	Nontarget Insect Testing-Ladybird Beetle-EP	487459-01	Marrone Bio Innovations	OWN	<del> </del>
Signature		Name and Title Keith Pitts, VP-Regulatory Affairs		Date January 9, 2014	

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Applicant's/Registrant Name and Address Marrone Bio Innovations,			EPA Reg. No./File Symbo 84059-14	EPA Reg. No./File Symbol 84059-14	
			Product MBI-206 EP		
Ingredient: Heat-kil	led Burkholderia sp. strain A396 cells and spent fermentation media				
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
OCSPP 885.4380	Honeybee Testing-EP	487459-01 491737-11 491737-12	Marrone Bio Innovations	OWN	
OCSPP 885 series	Other Nontarget Insect Testing - EP	491737-14 491737-15 491737-16 491737-17 491737-18 491737-19 491737-20 491737-21	Marrone Bio Innovations	OWN	
Not applicable	Response to Tier 1 Microbial Pesticide Data Requirements for MBI-	482128-03	Marrone Bio Innovations	OWN	<u> </u>
—————	206 EP	402120-03	Warrone Bio Inflovations	OVVIN	
Not applicable	MBI-206 EP Response to Agency Completeness Check	487459-02	Marrone Bio Innovations	OWN	
OCSPP 830.6317 OCSPP 830.6320	18-Month Storage Stability and Corrosion Characteristics Study	NEW	Marrone Bio Innovations	OWN	
Signature		Name and Title Keith Pitts, VP-Regulatory	Name and Title Keith Pitts, VP-Regulatory Affairs  Date Jan		

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			Product		
2121 Second Street, Suite B-107	7, Davis, CA 95618	···	MBI-206 EP		
Ingredient: Heat-killed Burkhold	deria sp. strain A396 cells and spent ferme	entation media			
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
			Marrone Bio Innovations	OWN	
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			Marrone Bio Innovations	OWN	
			Marrone Bio Innovations	OWN	
Signature			Name and Title Keith Pitts, VP-Regulatory	Affairs	Date January 9, 2014

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Applicant's/Registrant Name and Address  Marrone Bio Innovations,		EPA Reg. No./Fite Symbo 84059-14	1	Page 3 of 5	
		Product MBI-206 EP			
Ingredient: Heat-killed Burkholderi	a sp. strain A396 cells and spent fermer	ntation media			
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
			Marrone Bio Innovations	OWN	Data submitted for TGAI
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	t, Suite B-107, Davis, CA 95616 lled <i>Burkholderia sp.</i> strain A396 cells and spent f	fermentation media	WIBI-206 EP		
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Date January 9, 201	14	<del></del>	EPA Reg. No./Fire Symbo 84059-14	ı	Page 5 of 5
Applicant's/Regist Marrone Bio Innova	rant Name and Address		Product		
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			Marrone Bio Innovations	OWN	<del> </del>
Signature	7		Name and Title Keith Pitts, VP-Regulatory	Affairs	Date January 9, 2014

### EPA National Organic Program Labeling Request Checklist

Reviewer Name: Chris Pfeifer RAL: Michael Glickes

Product Name: MBI-206 EP (EPA Reg. No.: 84059-14)

Completion Date: 11/25/13

Determination: Permitted Receipt Date: 11/13/13

#	Check fist Rem	Yes	No.
- 1	Active Ingredients - Are all of the active ingredient(s) "Allowed" on the National List?	Y	
2	<b>Active Ingredients History -</b> Is the active ingredient on the BPPD list of previous NOP approvals (f:/USER/SHARE/BPPD/Organic/Copy of NOP/allowableble.pdf or ALLOWED.xls)?	Y	
3	<b>Inert Ingredients</b> - Are all of the inert(s) found on the August 2004 EPA list <u>4A</u> and <u>4B</u> ?	Y	
4	Inert Ingredients – Have any inert(s) been recently revoked (Revoked List 4 Inerts)?		N
5	Use Sites – Are all the product's use sites within the scope of the designated use patterns cited in the <i>National List</i> ?	Y	
6	<b>Language</b> - Is the requested label language allowable. (Acceptable language includes: "For Use in Organic Production"; "For Organic Production"; "For Use in Organic Gardening"; "For Organic Gardening"; "OMRI Listed"; the OMRI logo; and the three leaf EPA NOP Logo.	Y	
7	OMRI Certification – Does the application have a current OMRI certificate?	N	

#### Comments -

- #1) There is sufficient information on the active ingredient Burkholderia to approve its NOP claim. The ai is not GM. The broth is not of toxicological significance. There are no inert ingredients which are intentionally added to the TGAI for reasons other than to foment microbial growth. And while the ai is not live (i.e. killed), it derives its insecticidal properties through its metabolites, not through a structural mode of action.
- #2) The inert ingredients are all List 4, and are allowed under the NOP. The composition of the inert ingredients were confirmed through OPPIN and MSDS.
- #3) The product is a foliar spray for crops. The uses are applicable to Organic Production.
- #4) An OMRI certificate was not provided. But EPA NOP policy allows for an OMRI claim so long as it is qualified as a 'placeholder' statement. The applicant must submit the OMRI certificate to EPA upon their receipt of the certificate from OMRI.
- #5) The language "For Organic Production", "For Organic Lawn Care", "Can be Used for Organic Productions" and the "OMRI Listed (placeholder)" logo is appropriate for the agricultural and commercial sublabels. The language "For Organic Gardening", "For Organic Lawn Care", "Can be Used for Organic Gardening" and the "OMRI Listed (placeholder)" logo is appropriate for the H&G sublabel.

Permit the NOP labeling of this product.

This review contains CONFIDENTIAL BUSINESS INFORMATION (CBI). Do not release this document to the registrant if it contains confidential information on proprietary mixes.

**Program Links -** National Organic Program (AMS - NOP); PR Notice 2003-1 (PR Notice 2003-1)

BPPD Guidance Document - Other Items May be Required

# PRIA 2 – 21 Day Content Screen Review Worksheet (EPA/OPP Use Only) Start Date: 8-30-10 3/23/09

EPA	Reg. Number: 84059-RU EPA Receipt Date: 8-	30-,	10			<u> </u>
	Items for Review			Yes	No	N/A*
1	Application Form (EPA Form 8570-1)(link to form) signed & co including package type	mplete		X		
2	Confidential Statement of Formula all boxes completed, form signed, and dated (EPA Form 8570-4) (Link to form)					
2	a) All inerts (link to http://www.epa.gov/opprd001/inerts/), including fragrances, approved for the proposed uses (see Footnote A)	yes	no			
3	Certification with Respect to Citation of Data (EPA Form 8570-34) (Link to					
	Certificate and data matrix consistent					
	If applicant is relying on data that are compensable, is the offer to pay statement included. (see Footnote B)	yes	no			
4	If applicable, is there a letter of Authorization for exclusive use or Formulator's Exemption Statement (EPA Form 8570-27) (Link completed and signed (N/A if source is unregistered or applicant of technical)	to form	•			人
	<b>Data Matrix</b> (EPA Form 8570-35) (Link to form) both internal ar copies (PR 98-5) (Link to PR 98-5) completed and signed (N/A if repack)		nal	X		
5	a) Selective Method (Fee category experts use)	yes ×	no			
	b) Cite-All (Fee category experts use)					
	c) Applicant owns all data (Fee category experts use)					
6	5 Copies of Label (link to <a href="http://www.epa.gov/oppfead1/labelin">http://www.epa.gov/oppfead1/labelin</a> (Electronic labels on CD are encouraged and guidance is avail <a href="http://www.epa.gov/pesticides/regulating/registering/submissions/index.">http://www.epa.gov/pesticides/regulating/registering/submissions/index.</a>	able)( l	ink to	X		

7	Is the data package consistent with PR Notice 86-5 (link to PRN 86-5)	X	
8	Notice of Filing (link to <a href="http://www.epa.gov/pesticides/regulating/tolerance_petitions.htm">http://www.epa.gov/pesticides/regulating/tolerance_petitions.htm</a> ) included with petitions (link to <a href="http://www.epa.gov/pesticides/regulating/tolerances.htm">http://www.epa.gov/pesticides/regulating/tolerances.htm</a> )		7
9	If applicable for conventional applications, reduced risk rationale (link to http://www.epa.gov/opprd001/workplan/reducedrisk.html)		+
10	Required Data (link to <a href="http://www.epa.gov/pesticides/regulating/data_requirements.htm">http://www.epa.gov/pesticides/regulating/data_requirements.htm</a> ) and/or data waivers. See Footnote C.  a) List study (or studies) not included with application		

## Comments:

si is approved to ford a use

MRID: 49010

\* N/A – Not Applicable

#### Footnotes

A. During the 21 day initial content review, all CSFs will be reviewed to determine whether all inerts listed, including fragrances, are approved for the proposed uses. If an unapproved inert is identified, the applicant must either 1) resolve the inert issue by, for example, removing the inert, substituting it with an approved inert, submitting documentation that EPA approved the inert for the proposed pesticidal uses, correcting mistakes on the CSF, etc. or 2) provide the data to support OPP approval of the inert or 3) withdraw the application. Removing or substituting an inert ingredient will require a new CSF and may require submission of data. All information, forms, data and documentation resolving the inert issue must have been received by the Agency or the application withdrawn within the 21 day period, otherwise, the Agency will reject the application as described below.

To successfully complete this aspect of the 21 day initial content screen, applicants are strongly encouraged to verify that all inert ingredients have been approved for the application's uses even if a product is currently registered by consulting the inert Web site [link to <a href="http://www.epa.gov/opprd001/inerts/lists.html">http://www.epa.gov/opprd001/inerts/lists.html</a>] and if the inert is not approved, to obtain the necessary inert approval prior to submitting an application to register a pesticide product containing that inert ingredient. Some inert ingredients are no longer approved for food uses or certain types of uses. The name and/or CAS number on a CSF must match the name and CAS number on this web site. Simple typographical errors in the name or CAS number have resulted in processing delays.

If an inert is not listed on the inert ingredient web site and the applicant believes that the inert has been approved, the applicant should contact the Inert Ingredient Assessment Branch (IIAB) at <a href="mailto:inertsbranch@epa.gov">inertsbranch@epa.gov</a> and resolve the issue. Copies of the correspondence with IIAB resolving the issue should accompany the application. All new inerts except PIP inerts are reviewed by IIAB. The IIAB should also be contacted for any questions on what supporting data needs to be submitted for and the Agency's inert review process. Questions on PIP inerts should be directed to the Chief of Microbial Pesticides Branch [Link to <a href="http://www.epa.gov/oppbppd1/biopesticides/contacts">http://www.epa.gov/oppbppd1/biopesticides/contacts</a> bppd.htm].

When a brand, trade, or proprietary name of an inert ingredient is listed on a CSF, additional information such as an alternate name of the inert, CAS number or other information [link to <a href="http://www.epa.gov/opprd001/inerts/tips.pdf">http://www.epa.gov/opprd001/inerts/tips.pdf</a>] must also be included to enable the Agency to determine if it has been approved. Each component of an inert mixture (including a fragrance) must be identified. In some cases, the supplier of the mixture or fragrance may need to provide this information to the Agency. Prior to the Agency's receipt of an application, applicants must arrange with a proprietary mixture or fragrance supplier to provide the component information to the Agency or promptly upon EPA's request. If the inert ingredients in a proprietary blend (including fragrances) cannot or are not identified or provided within the 21-day content review period, the Agency will reject the application.

During the 21 day content review, applicants should submit information to the individual identified by the Agency when the applicant is informed of an unapproved inert.

#### **Unapproved Inerts Identified on CSFs**

All applications except conventional new products and PIPs

Once an unapproved inert is identified on a CSF, the Agency will contact the applicant with the following options:

- 1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or
- 2. Submit the information and data needed for the Agency to approve the unapproved inert. If this option is selected and implemented, the Agency may request an extension in the PRIA decision review timeframe to accommodate the inert review/approval process;

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of these options is selected and implemented by the applicant within the 21 day content review period, the Agency will reject the application and retain 25% of the full fee of the category identified.

#### Conventional New Product Applications

When the Registration Division identifies an unapproved inert on a CSF with an application for a new product that the applicant has not identified as requiring an inert approval (R311, R312 or R313), it will contact the applicant with the following options:

- 1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or
- 2. Submit the information and data needed for the Agency to approve the unapproved inert, including any required petition to establish or amend a tolerance or exemption from a tolerance. (This option may change the PRIA category for the application, which could require a longer decision review time and a larger fee. If additional fees are due, they must be received by the Agency within the 21 day content review period.)
- 3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21-day content-review period, the Agency will reject the application and retain 25% of the appropriate fee for the new product-inert approval category.

#### PIP Applications

When the Biopesticide and Pollution Prevention Division identifies an unapproved inert on a PIP CSF and a request to approve the inert does not accompany the application, it will contact the applicant with the following options:

- 1. Correct the application by, for instance, correcting the spelling or name of the inert to that in 40 CFR 174, or providing documentation that the inert has been approved; or
- 2. Submit the information and data needed for the Agency to approve the unapproved inert. If an inert ingredient tolerance exemption petition is required, the petition must be received by the Agency and the B903 fee paid within the 21 day period. If this option is selected and implemented, the Agency will discuss harmonizing the timeframe for both actions.

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21 day content review period, the Agency will reject the application and retain 25% of the fee.

- B. A policy on documentation of offers to pay is still being developed, however, for a me-too or fast track (similar/identical) new product, R300 or A530, an application without the necessary authorizations of offers to pay will be placed into either R301 or A531. The Agency recommends that authorizations of offers to pay be submitted with other PRIA applications to avoid delays in the Agency's decision.
- C. Biopesticide applicants are advised to contact the Agency and discuss study waivers prior to submitting their application to the Agency. Documentation of such discussions should be submitted with the study waiver.



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

September 2, 2010

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

OPP Decision Number: D-439286

EPA File Symbol or Registration Number: 84059-RU

Product Name: MBI-206 EP EPA Receipt Date: 30-Aug-2010 EPA Company Number: 84059

Company Name: MARRONE BIO INNOVATIONS

KEITH J. PITTS MARRONE BIO INNOVATIONS 2121 SECOND STREET, SUITE B-107 DAVIS, CA 95618-

SUBJECT: Receipt of Registration Application Subject to Registration Service Fee

#### Dear Registrant:

The Office of Pesticide Programs has received your application and certification of payment. If you submitted data with this application, the results of the PRN-86-5 screen will be communicated separately. During the administrative screen, the Office of Pesticide Programs has determined that this Action is subject to a Pesticide Registration Service Fee as defined in the Pesticide Registration Improvement Act.

The Action has been identified as Action Code: B590.0

NEW AI; FOOD USE; MICROBIAL/BIOCHEMICAL WITH EXEMPTION;

No additional payment is due at this time.

If you have any questions, please contact the Pesticide Registration Service Fee Ombudsman at (703) 305-7973.

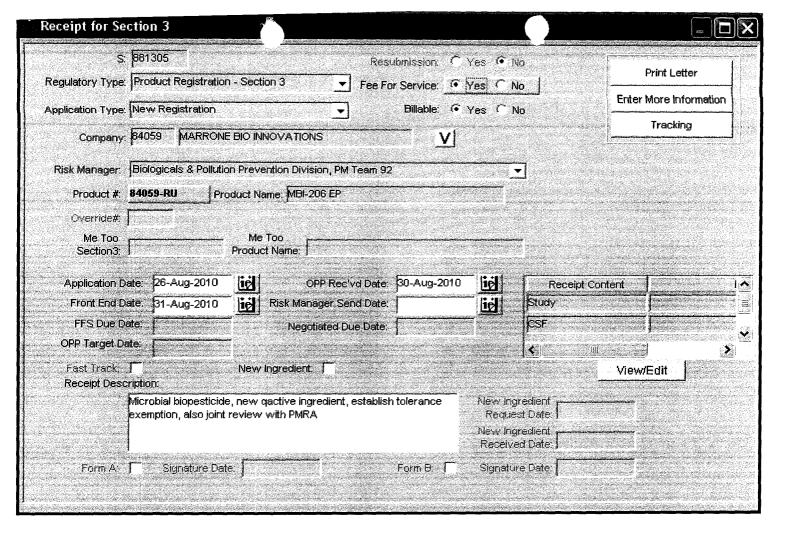
Front End Processing Staff

Information Technology & Resources Management Division

## Fee for Service

{881305Ç~

This package includes the following	for Division
<ul><li>New Registration</li><li>Amendment</li></ul>	○ AD ○ BPPD ○ RD
<ul><li>Studies?</li><li>Fee Waiver?</li><li>volpay</li><li>Reduction:</li></ul>	Risk Mgr. 92
Receipt No. S- EPA File Symbol/Reg. No. Pin-Punch Date:	881305 84059-RU 8/30/2010
This item is NOT subject t	o FFS action.
Action Code:  Requested: B590.0  Granted: B590.D  Amount Due: \$	Parent/Child Decisions:  Secondary to:  84059-RG(5881303)
Reviewer: Alan Reynolds Remarks:	Uncleared Inert in Product  Date: 9/2/10



## FEE FOR SERVICE

#### **Online Payment**

#### **Step 3: Confirm Payment**

1 | 2 | 3

Thank you.

Your transaction has been successfully completed.

Pay.gov Tracking Information

**Application Name: PRIA Service Fees** 

Pay.gov Tracking ID: 251C25DA **Agency Tracking ID: 74134394283** 

Transaction Date and Time: 08/26/2010 13:23 EDT

**Payment Summary** 

**Address Information** 

Account Holder Name: Keith J Pitts

4249 Curragh

Billing Address: Oaks Lane

**Billing Address** 

2:

City: Fair Oaks

State / Province: CA

Zip / Postal <sub>95628</sub>

Code:

Country: USA

**Account Information** 

Card Type: Visa

Card Number: \*\*\*\*\*\*\*\*2695

Decision

Number:

Registration

Number:

Marrone Bio

Company Name: Innovations

Company 84059-CA-001 Number:

Action Code: B590

**Payment Information** 

Payment Amount: \$6,891.00

Transaction Date 08/26/2010

and Time: 13:23 EDT

Please read instructions on reverse before c eting form.	Form App	roved B No. 2070-0060	Print Form		
United States Environmental Protect Washington, DC 2	tion Agency	X Registration Amendment Other	OPP Identifier Number		
Applicat	tion for Pesticide - Sec	tion I			
1. Company/Product Number Marrone Bio Innovations/84059-	<b>2. EPA Product Mad</b> Ann Sibold	nager 3. P	roposed Classification		
<b>4. Company/Product (Name)</b> Marrone Bio Innovations/MBI-206 EP	PM#		None Restricted		
5. Name and Address of Applicant (Include ZIP Code)  Marrone Bio Innovations, 2121 Second Street, Suite B-107, Davis, CA 95618  6. Expedited Review. In accordance with FIFRA Section 3(c)(3)  (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No.  Product Name					
	Product Name Section - II				
Amendment - Explain below.  Resubmission in response to Agency letter dated  Notification - Explain below.	Final printe Agency let "Me Too"	ed labels in response to ter dated Application.			
Explanation: Use additional page(s) if necessary. (For section I and Section II.)  B-590, Microbial biopesticide, new active ingredient, establish tolerance exemption, accompanying MBI-206 TGAI submission, also Joint Review with PMRA					
	Section - III				
Material This Product Will Be Packaged In:					
Child-Resistant Packaging  Yes  No  * Certification must be submitted  Unit Packaging  Unit Packaging  Yes  X  No  If "Yes" Unit Packaging wgt.  No. per Container	Water Soluble Packaging Yes X No  If "Yes" No. per Package wgt containe		r Specify)		
3. Location of Net Contents Information  4. Size(s) F  Container  2.5 & 5 gain	Retail Container Ilon	5. Location of Label Directi  On Label On Labeling accor	ons mpanying product		
6. Manner in Which Label is Affixed to Product Lith Paper Ster	ograph Othe er glued noiled	)f			
	Section - IV		7/		
1. Contact Point   Complete items directly below for identifice	tion of individual to be contacted	, if necessary, to process thi	s application.)		
Name Keith Pitts	Title VP, Regulatory Affairs		ne No. (Include Area Code) 50-2800		
Certification  I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete.  I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.  6. Date Application Received  (Stamped)					
2. Signature	3. Title Vice President, Regulatory	Affairs			
4. Typed Name Keith Pitts	5. Date August 23, 2010				

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

White - EPA File Copy (original)

Yellow - Applicant Copy



#### August 26, 2010

Document Processing Desk (DPD) (REGFEE)
Office of Pesticide Programs (7504P)
U. S. Environmental Protection Agency
Room S-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202 – 4501

Attn: Dr. Sheryl Reilly (7504P)

Microbial Branch Chief BPPD

Subject:

Application for Pesticide Registration, MBI-206 TGAI and EP

Dear Dr. Reilly:

Marrone Bio Innovations is submitting an application to register MBI-206 TGAI containing *Burkholderia sp.* strain A396 cells, as an insecticide against many foliar feeding pests, such as coleopteran pests, and soft-bodied insect pests, such as aphids, mites and whiteflies. We are also submitting an application to register MBI-206 EP, which is the commercial formulation of the *Burkholderia sp.* strain A396 based product for a concurrent review (which is also included in this regulatory submission). This product is also being submitted to the Pest Management Regulatory Agency of Health Canada as a joint BPPD-PMRA review candidate.

In support of the applications, enclosed are the following:

#### Documents Submitted for MBI-206 TGAI:

Volume 1: Transmittal Document

- Cover Letter
- Application for Pesticide Registration, EPA Form 8570-1
- 3. Confirmation of payment to the US EPA for PRIA2 Fee of \$6,891, which is a 75% reduction because all parameters remain the same as when the original 75% waiver was granted. (Agency Tracking ID: 74134394283) The PRIA2 category we suggest for this product is B590, which is "new active ingredient, establish tolerance exemption." Please confirm.

- 4. Request for a 75% Waiver of PRIA Fees
- 5. Confidential Statement of Formula, EPA Form 8570-4
- 6. Certification with Respect to Citation of Data, EPA Form 8570-34
- 7. Data Matrix, EPA Form 8570-35
- 8. Self Certification Statement for Physical/Chemical Properties, EPA Form 8570-37
- 9. Product Label (5 copies)
- Volume 2: Marja Koivunen, July 29, 2010. Product Chemistry for MBI-206 TGAI (885.1100-885.1500, 830.6302-830.7300), 3 copies.
- Volume 3: Janice O. Kuhn. April 17, 2009. Acute Oral Toxicity Study (UDP) in Rats (870.1100), 3 copies.
- Volume 4: Janice O. Kuhn. October 24, 2009. Acute Dermal Toxicity in Rats (870.1200 and OECD 402), 3 copies.
- Volume 5: Cole Younger. September 24, 2009. Acute Inhalation Toxicity Study in Rats (870.1300 and OECD 403), 3 copies.
- Volume 6: Janice O. Kuhn. September 16, 2009. Acute Eye Irritation Study in Rabbits (870.2400 and OECD 405), 3 copies.
- Volume 7: Janice O. Kuhn, October 5, 2009. Acute Dermal Irritation Study in Rabbits (870.2500 and OECD 404), 3 copies.
- Volume 8: Janice O. Kuhn, October 12, 2009. Skin Sensitization in Guinea Pigs (870.2600 and OECD 206), 3 copies.
- Volume 9: Kathryn S. Monds, November 17, 2009. Acute Injection Toxicity /Infectivity (885.3200), 3 copies.
- Volume 10: Kathryn S. Monds, July 20, 2009. Acute Injection Toxicity /Pathogenicity Pilot Study in Mice (Non-GLP), 3 copies.
- Volume 11: Kathryn S. Monds, July 20, 2009. Subcutaneous Mouse Safety Study (Non-GLP), 3 copies.
- Volume 12: Cole Younger. November 17, 2009. Acute Oral Toxicity Study in Bobwhite Quail (885.4050), 3 copies.
- Volume 13: Theresa Hartwell. March 25, 2010. Microbial Pest control Agent (MCPA) Freshwater Fish Test with *Pimephales promelas* (885.4200), 3 copies.

- Volume 14: Theresa Hartwell. November 2, 2009. Microbial Pest Control Agent (MCPA) Freshwater Aquatic Invertebrate Test with Daphnia magna (885.4240), 3 copies.
- Volume 15: Cole Younger. January 13, 2010. Green Lacewing Microbial Testing (885.4340), 3 copies.
- Volume 16: Cole Younger. May 13, 2010. Parasitic Wasp, *Aphidius matricariae*, Non-target Insect Microbial Testing (885.4340), 3 copies.
- Volume 17: Cole younger. December 29, 2009. Ladybird Beetle Non-target Insect Microbial Testing (885.4340), 3 copies.
- Volume 18: Cole Younger. May 20, 2010. Honey Bee, *Apis mellifera*, Non-target Insect Microbial Testing (885.4380), 3 copies.
- Volume 19: Keith Pitts. July 27, 2010. Response to Tier 1 Microbial Pesticide Data Requirements for MBI-206 TGAI (885.3050, 885.3150, 885.3400, 885.3500, 885.4100, 885.4150, 885.4280), 3 copies.
- Volume 20: Keith Pitts. July 27, 2010. Endangered Species Evaluation for MBI-206, 3 copies.
- Volume 21: Marrone Bio Innovations. Petition for an Exemption from the Requirement of a Tolerance for Residues of Products Containing the Active Ingredient "Burkholderia sp. strain A396)" in and all Food Commodities

#### Documents Submitted for MBI-206 EP:

Volume 1: Transmittal Document

Cover Letter

Application for Pesticide Registration, EPA Form 8570-1 Confidential Statement of Formula, EPA Form 8570-4 Certification with Respect to Citation of Data, EPA Form

8570-34

Data Matrix, EPA Form 8570-35

Self Certification Statement for Physical/Chemical

Properties, EPA Form 8570-37

Product Label (5 copies)

Davis, CA 95618 • Phone: 530-750-2800

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Volume 3: Christy Morgan. August 5, 2010. MBI-206 EP-Nontarget Plants (885.4300), 3 copies.

Volume 4: Keith Pitts. July 27, 2010. Response to Tier 1 Microbial Pesticide Data Requirements for MBI-206 EP (885.3050, 885.3150, 885.3400, 885.3500, 885.4100, 885.4150, 885.4280), 3 copies.

If you have any additional questions or comments, please contact me immediately at (530) 750-2800 or <a href="mailto:kpitts@marronebio.com">kpitts@marronebio.com</a>. Thank you for efforts.

With best wishes,

 $\mathbb{V}$ 

Sincerely

Keith J. Pitts Vice President, Regulatory Affairs

#### Transmittal Document

#### Submitter:

Marrone Bio Innovations 2121 Second Street, Suite B-107 Davis, CA 95618

#### Regulatory action in support of which this package is submitted:

Application for registration of MBI-206 TGAI and MBI-206 EP containing Burkholderia sp. strain A396 cells, for a joint review by the Health Canada PMRA and the US EPA.

#### **EPA File Symbol**

84059-

#### **Transmittal Date:**

August 23, 2010

#### **Documents Submitted for MBI-206 TGAI:**

#### Volume 1: Transmittal Document

- 1. Cover Letter
- Application for Pesticide Registration, EPA Form 8570-1
- 3. Confirmation of payment to the US EPA for PRIA2 Fee of \$6,891, which is a 75% reduction because all parameters remain the same as when the original 75% waiver was granted. (Agency Tracking ID: 74134394283) The PRIA2 category we suggest for this product is B590, which is "new active ingredient, establish tolerance exemption." Please confirm.
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- Volume 13: Theresa Hartwell. March 25, 2010. Microbial Pest control Agent (MCPA) Freshwater Fish Test with *Pimephales promelas* (885.4200), 3 copies.
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- Volume 16: Cole Younger. May 13, 2010. Parasitic Wasp, *Aphidius matricariae*, Non-target Insect Microbial Testing (885.4340), 3 copies.
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- Volume 21: Marrone Bio Innovations. Petition for an Exemption from the Requirement of a Tolerance for Residues of Products Containing the Active Ingredient "Burkholderia sp. strain A396)" in and all Food Commodities

#### Documents Submitted for MBI-206 EP:

Volume 1: Transmittal Document Cover Letter

Application for Pesticide Registration, EPA Form 8570-1 Confidential Statement of Formula, EPA Form 8570-4

Certification with Respect to Citation of Data, EPA Form 8570-34

Data Matrix, EPA Form 8570-35

Self Certification Statement for Physical/Chemical Properties, EPA

Form 8570-37

Product Label (5 copies)

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If you have any additional questions or comments, please contact me immediately at (530) 750-2800 or <a href="mailto:kpitts@marronebio.com">kpitts@marronebio.com</a>. Thank you for efforts.

With best wishes,

Sincerely,

Keith J. Pitts

Vice President, Regulatory Affairs



#### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 1200 Pennsylvania Avenue, N.W. WASHINGTON, D.C. 20460

Paperwork Reduction Act Notice: The public reporting burden for this collection of informat and 0.25 hours per response for reregistration and special review activities, including time for comments regarding burden estimate or any other aspect of this collection of information, inci Strategies Division (2822T), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave to this address.	reading the instructions cluding suggestions for r	ns and completing the necessary forms. Send reducing the burden to: Director, Collection				
Certification with Respect to C	Citation of Data					
Applicant's/Registrant's Name, Address, and Telephone Number Marrone Bio Innovations, 2121 Second Street, Suite B-107, Davis, CA 95618		EPA Registration Number/File Symbol 84059-				
Active Ingredient(s) and/or representative test compound(s) Burkholderia sp. strain A396 and spent fermentation media		Date August 23, 2010				
General Use Pattern(s) (list_all those claimed for this product using 40 CFR Part 158 Terrestrial food, non-food, feed crop use; Greenhouse food, non-food crop use	3)	Product Name MBI-206 EP				
NOTE: If your product is a 100% repackaging of another purchased EPA-registers submit this form. You must submit the Formulator's Exemption Statement (EPA Formulator's Exemption Statement)		or all the same uses on your label, you do not need to				
I am responding to a Data-Call-In Notice, and have included with this form a be used for this purpose).	list of companies ser	nt offers of compensation (the Data Matrix form should				
SECTION I: METHOD OF DATA SUPP	PORT (Check one m	ethod only)				
I am using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).	a list of companies sent offers of compensation (the Data Matrix form under the selective method), and have included with this form a					
SECTION II: GENERAL	OFFER TO PAY					
[Required if using the cite-all method or when using the cite-all option under the selec	tive method to satisf	y one or more data requirements]				
I hereby offer and agree to pay compensation, to other persons, with regard to	the approval of this	application, to the extent required by FIFRA.				
SECTION III: CERT	IFICATION					
I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.						
I certify that for each exclusive use study cited in support of this registration the written permission of the original data submitter to cite that study.	or reregistration, tha	at I am the original data submitter or that I have obtained				
I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (I) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.						
I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.						
I certify that the statements I have made on this form and all attachm knowingly false or misleading statement may be punishable by fine or impriso						
Signature	Date	Typed or Printed Name and Title				
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EPA Form 8570-34 (12-2003) Electronic and Paper versions available. Submit only Paper version.



Form Approved OMB No, 2070-0060

### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 401 M Street, S.W. WASHINGTON, D.C. 20460

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#### DATA MATRIX Date July 28, 2010 EPA Reg. No./File Symbol Page 1 of 2 84059-Applicant's/Registrant Name and Address Product Marrone Bio Innovations, 2121 Second Street, Suite B-107, Davis, CA 95618 MBI-206 EP Ingredient: Burkholderia sp. strain A396 cells and spent fermentation media MRID Number Guideline Reference Number **Guideline Study Name** Submitter Status Note OPPTS 885,1100 Product Identity-EP Marrone Bio Innovations OWN 482128-01 OPPTS 885.1200 Manufacturing Process-EP Marrone Bio Innovations OWN OPPTS 885,1300 Discussion of the Formation of Unintentional Ingredients-Marrone Bio Innovations OWN 4 ( OPPTS 885,1400 Analysis of Samples-EP Marrone Bio Innovations OWN 11 OPPTS 885,1500 Certification of Limits-EP Marrone Bio Innovations OWN U OPPTS 830.6302 Color-EP Marrone Bio Innovations OWN 482128-01 OPPTS 830,6303 Physical State-EP Marrone Bio Innovations OWN OPPTS 830,6304 Odor-EP Marrone Bio Innovations. OWN Stability at Normal and Elevated Temperatures, Metals OPPTS 830.6313 Marrone Bio Innovations OWN and Metal lons-EP OPPTS 830.6317 Storage Stability-EP Marrone Bio Innovations OWN OPPTS 830,6319 Miscibility-EP Marrone Bio Innovations OWN Signature Name and Title Date Keith Pitts, VP-Regulatory Affairs July 28, 2010

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#### DATA MATRIX Date July 28, 2010 EPA Reg. No./File Symbol Page 2 Of 2 84059-Applicant's/Registrant Name and Address Product Marrone Bio Innovations. **MBI-206 EP** 2121 Second Street, Suite B-107, Davis, CA 95618 Ingredient: Burkholderia sp. strain A396 cells and spent fermentation media **Guideline Study Name** Guideline Reference Number MRID Number Submitter Status Note OPPTS 830,6320 Corrosion Characteristics-EP Marrone Bio Innovations OWN 482128-01 OPPTS 830,7000 PH-FP Marrone Bio Innovations OWN OPPTS 830,7100 Viscosity-EP Marrone Bio Innovations OWN OPPTS 830 7300 Bulk Density-EP Marrone Bio Innovations OWN OPPTS 870,1100 Acute Oral Toxicity -EP Marrone Bio Innovations OWN 482128-03 Acute Dermal Toxicity -EP OPPTS 870 1200 Marrone Bio Innovations OWN OPPTS 870.1300 Acute Inhalation Toxicity -EP Marrone Bio Innovations OWN 11 OPPTS 870.2400 Primary Eve Irritation-EP Marrone Bio Innovations OWN 11 OPPTS 870 2500 Primary Dermal Irritation Study in Rabbits-EP 11 Marrone Bio Innovations OWN OPPTS 885.4300 Nontarget Plant Testing-EP Marrone Bio Innovations OWN 482128-02 OPPTS 885.4300 Nontarget Plant Testing, Aquatic-EP Marrone Bio Innovations OWN Response to Tier 1 Microbial Pesticide Data Marrone Bio Innovations OWN 483128-03 Requirements for MBI-206 -EP Signature Name and Title Date Keith Pitts, VP-Regulatory Affairs July 28, 2010



Form Approved OMB No. 2070-0060

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Date July 28, 2010			EPA Reg. No./File Symbol 84059-		Page 1 Of 2
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Signature			Name and Title Keith Pitts, VP-Regulatory		Date July 28, 2010
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Signature			Name and Title Keith Pitts, VP-Regulatory	Affairs	Date July 28, 2010



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 1200 Pennsylvania Avenue, N.W. WASHINGTON, D.C. 20460

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## SELF-CERTIFICATION STATEMENT FOR THE PHYSICAL/CHEMICAL PROPERTIES (PR NOTICE 98-1)

PHYSICAL/CHEMICAL PROPERTIES (PR N	NOTICE 98-1)				
Product Name: MBI-206 EP					
Reg. No./File Symbol No. (if known) or Company No. 84059-CA-001					
SELF-CERTIFICATION STATEMENT:					
I certify that the reported information on the "Summary Form" repres the test results of studies generated or owned by (Company Name): <u>Marron</u>					
and that the values of the properties reported are reliable.  I further certify that such data were generated in substantial conformity with OPPTS Test Guideline Series 830 Product Properties, applicable to my product, and in effect at the time of submission.					
As a condition of registration, EPA may, by order, (1) withdraw a pending registration, (2) suspend the registration of this product without opportunity for hearing, or (3) assess civil penalties provided for in section 14 of FIFRA for violations of section 12(a)(2)(N) of FIFRA without opportunity for hearing, if I have not submitted to EPA within thirty (30) days of receipt of a request by the Agency, or within a specified time agreed to by the Agency, test results of studies summarized in the "Summary Form."					
As a condition of registration, EPA may, by order, (1) withdraw a pending registration, (2) suspend the registration of this product without opportunity for hearing, or (3) assess civil penalties provided for in section 14 of FIFRA for violations of sections 12(a)(2)(N), 12(a)(2)(Q), or 12(a)(2)(R) of FIFRA without opportunity for hearing, if I fail to provide to EPA within thirty (30) days of receipt of a notification of error, or within a specified time agreed to by the Agency, information that EPA determines is required to correct the error.					
Type Applicant's Name: Keith Pitts					
Title: Vice President, Regulatory Affairs	Telephone No. (530) 750-2800				
Applicant's Signature	Date: August 23, 2010				

EPA Form 8570-37 (12-2003)

Attach-2

## **MBI-206 EP**

#### **BIOLOGICAL INSECTICIDE**

(Can Be Used in Organic Production)

OMRI Placeholder

## KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15 – 20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>Call poison control center or doctor for treatment advice.</li> </ul>
If swallowed	<ul> <li>Call poison control center or doctor immediately for treatment advice,</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
lf on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 – 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
HOT LINE NUMBER	

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

**EPA Reg. No.:** (pending as File Symbol 84059-X)

Net Contents: XX (Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc.

2121 Second St., Suite B-107 Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

US Patents No. XXXXX

XXXX® is a trademark of Marrone Bio Innovations, Inc.

Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

**EPA Est. No.:** XXXXX-XX-XXX

<sup>\*</sup>Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. <u>Note</u>: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

#### PRECAUTIONARY STATEMENTS

Hazards to humans and domestic animals - CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

#### Personal Protective Equipment (PPE):

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks

Mixer/loaders and applicators, not in aircraft or enclosed cabs, must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow the manufacturer's instructions for cleaning / maintaining PPE. If no instructions are available, use detergent and hot water for washables. Keep and wash PPE separately from other laundry.

#### **USER SAFETY RECOMMENDATIONS**

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**Environmental Hazards:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

#### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

#### **Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water). is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

#### GENERAL INFORMATION

MBI-206 EP is a biological insecticide containing fermentation solids of *Burkholderia sp.* for use on ornamental plants, turf and edible crops against the pests listed in the Directions for Use section. MBI-206 EP functions primarily as a stomach poison for use in the control or suppression of many foliar feeding pests including caterpillars and foliage feeding coleopteran. MBI-206 also has direct contact activity against many soft-bodied insects such as caterpillars, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional insecticide spraying.

MBI-206 EP can be used in either the field or greenhouse for the control of any labeled pest.

#### GENERAL USE INSTRUCTIONS – FOR INSECT CONTROL

MBI-206 EP is a highly selective insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. MBI-206 EP does not have systemic activity. For some crops, directed drop nozzles by ground machine are required.

Under heavy pest populations, use the higher label rates, shorten the spray interval, and/or increase the spray volume to improve coverage.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

Adjuvants may be used to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed crop canopy, dense foliage and penetration into waxy leaf surfaces.

#### Mixing directions

**Important** – Do not add MBI-206 EP to the mix tank before introducing the desired amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-206 EP. Add the desired volume of MBI-206 EP to the mix tank and continue circulation. Maintain circulation while loading and spraying. Do not mix more MBI-206 EP than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

#### Tank mixing

Do not combine MBI-206 EP in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily be remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

#### APPLICATION

Apply MBI-206 EP in ground and aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

#### Row Crop Application

Use calibrated power-operated ground equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. A minimum of 10 gallons per acre should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, disc core/hollow cone or twin jet flat fan nozzles suitable for insecticide spraying. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition to reduce drift.

#### **Orchard Spraying**

- Dilute spray application: This application method is based on the premise that all plant parts are thoroughly wetted, to the point of runoff, with spray solution. To determine the number of gallons of dilute spray per acre, contact your extension specialist, state agricultural experiment station, or certified pest control advisor for assistance.
- Concentrate spray application: This application method is based on the premise that all
  plant parts are uniformly covered with spray solution but not to the point of runoff as with
  a dilute spray. Instead, a lower spray volume is used to deliver the same application
  rate of product per acre as is used for the dilute spray.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

#### AERIAL APPLICATION AND DRIFT REDUCTION ADVISORY INFORMATION

**General:** Apply in a spray volume of 5 or more gallons per acre on row crops and 10 or more gallons per acre on tree or orchard crops. Insect control by aerial application may be less than control by ground application because of reduced coverage.

**Spray drift**: Avoiding spray drift at the application site is the responsibility of the applicator. The Interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

**Information on droplet size**: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that will provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made Improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling droplet size: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Number of nozzles - Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**Boom width**: For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3-10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

**Application height**: Do not make application at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that Is safe reduces exposure to droplets to evaporation and wind.

**Swath adjustment:** When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2 - 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature inversions:** Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive areas:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

#### CHEMIGATION USE - DIRECTIONS FOR INSECT CONTROL

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

#### Spray preparation

First prepare a suspension of MBI-206 EP in a mix tank. Fill tank ½ to ¾ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine MBI-206 EP with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. MBI-206 EP has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

# GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in the mix tank during mixing and application to insure a uniform suspension. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume for a more dilute solution per unit time. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation waters.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

SHAKE WELL BEFORE USE

# FOR USE ON THE FOLLOWING CROPS FOR CONTROL OF SPECIFIED INSECTS AND MITES

Pre-harvest Interval (PHI) = 0 days

C	ro	n	G	r٥	11	n

## Alfalfa (hay and seed), Hay and other Forage crops

# 2 - 4 quarts per acre

Alfalfa webworm, alfalfa caterpillar, European skipper, armyworms, plant bug (suppression), aphids (suppression).

## **Asparagus**

## 2-4 quarts per acre

Armyworms

#### Bananas

## 2 - 4 quarts per acre

Banana skipper

# **Bulbs**

## Such as: Leek, Garlic and onion (bulb and green)

### 2 – 4 quarts per acre

Looper, omnivorous leafroller, hornworm, imported cabbageworm, diamondback moth, green cloverworm, webworm, saltmarsh caterpillar, armyworms, cutworm, cross-striped cabbageworm, *Heliothis*.

# **Bushberries**

Such as: Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Ligonberry, Salal 2 – 4 quarts per acre

Armyworms, cherry fruitworm, cranberry fruitworm, fireworms, leafrollers, loopers, blueberry blossom weevil

#### Caneberries

Such as: Blackberry, Loganberry, Red and Black Rasberry, and Cultivars and/or hybrids of these 2 – 4 quarts per acre

Armyworms, green fruitworm, leafrollers, looper, western raspberry fruitworm

### **Cereal Grains**

Such as: Barley, Buckwheat, Grain Amaranth, Milo, Oats, Pearl Millet, Proso Millet, Rye, Sorghum, Triticale, Wheat

# 2 – 4 quarts per acre

Armyworms, corn earworm (headworm), southwestern corn borer, web worms

### Citrus

## Such as: Grapefruit, Lemons, Limes, Oranges, Tangerines

# 2 - 4 quarts per acre

Fruittree leafroller, orangedog, citrus cutworm

Two-spotted spider mite, Texas citrus mite, citrus red mite, citrus rust mite, six-spotted spider mite (Suppression)

## Cranberry

# 2 - 4 quarts per acre

Armyworms,

leafrollers.

fireworms,

loopers.

sparganothis

fruitworm,

### Cole Crops

Such as: Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

## 2 - 4 quarts per acre

Diamondback moth, cabbage looper, imported cabbageworm, cabbage webworm, armyworms

## 4 quarts per acre

Swede midge - suppression

## Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

## 2 – 4 quarts per acre

Armyworm, European corn borer, southwestern corn borer, western bean cutworm, corn earwormCorn leaf aphid (suppression)

### Cotton

## 2 - 4 quarts per acre

European corn borer, cotton bollworm, tobacco budworm, loopers (soybean and cabbage), saltmarsh caterpillar, armyworms

Cotton aphid (suppression)

Lygus (suppression)

# **Cucurbit Vegetables**

Such as: Cucumber, edible gourds, muskmelon (cantaloupe, muskmelon, etc.), pumpkin, watermelon, winter and summer squash

### 2 - 4 quarts per acre

Armyworm, cabbage looper, melonworm, pickleworm, rindworm complex,

Silverleaf whitefly nymphs (suppression)

Aphids (suppression)

## Fig

# 2 - 4 quarts per acre

Navel orangeworm

## Flowers, Bedding Plants and Ornamentals – ground application only

### 2 – 4 quarts per acre

Looper, tobacco budworm, omnivorous looper, omnivorous leafroller, diamondback moth, armyworm, Ello moth, lo moth, oleander moth, azalea caterpillar

Whitefly nymphs (suppression)

Aphids and mites (suppression)

## Fruiting Vegetables

Such as: Tomato, Tomatillo, Pepper, Ground Cherry, Pepino, Okra and Eggplant

# 2 – 4 quarts per acre

Looper, hornworm, tomato fruitworm, variegated cutworm, saltmarsh caterpillar, armyworm, tomato pinworm, European corn borer

Silverleaf whitefly nymphs (suppression)

Aphids and mites (suppression)

Stink bugs (suppression)

Lygus and plant bugs (suppresson)

## Grape

## 2 - 4 quarts per acre

Grape leaf skeletonizer, grape leafroller, omnivorous leafroller, orange tortrix, oblique banded leafroller, grape berry moth

Pacific spider mite, Willamette Spider Mite, two-spotted spider mite (Suppression)

# Herbs, Spices and Mints

Such as: Angelica, balm, basil, borage, burnet, camomile, catnip, chervil, chive, clary, coriander, costmary, cilantro, curry, dillweed, horehound, hyssop, lavender, lemongrass, lovage, marjoram, nasturtium, parsley (dried), peppermint, rosemary, sage, savory (summer and winter), sweet bay, tarragon, thyme, wintergreen, woodruff and wormwood

### 2 - 4 quarts per acre

Looper, saltmarsh caterpillar and armyworm

## **Hops and Dried Cones**

# 2 - 4 quarts per acre

Armyworms, looper

# Leafy Vegetables and Leaves of Root and Tuber and Legume Vegetables

Such as: Arugula, Beets, Celery, Chervil, Cilantro, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Garden Peas, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Turnip Greens and Watercress

## 2-4 quarts per acre

Cabbage looper, diamondback moth, armyworms

Aphids (suppression)

## Legume Vegetables

Such as: Bean, Pea, Lentil and Soybean

## 2 - 4 quarts per acre

Looper, soybean looper, green cloverworm, velvetbean caterpillar, armyworm, podworm

Aphids and mites (suppression)

## Oil Crops

Such as: Canola, Safflower, Sunflower (including sunflower grown for seed)

## 2 - 4 quarts per acre

Armyworm, diamondback moth, looper, saltmarsh caterpillar, Heliothis, headworm

### Peanut

## 2-4 quarts per acre

Armyworms, cabbage looper, corn earworm, soybean looper, green cloverworm, European corn borer, podworm, red-necked peanut worm, saltmarsh caterpillar, velvetbean caterpillar

# **Pineapple**

### 2 – 4 quarts per acre

Gummosos-Batracheda Comosae (Hodges), Thecla-Thecla Basilides (Geyr)

### **Pome Fruit**

## Such as: Apples, Crabapple, Loquat, Mayhaw, Pears and Quince

## 2 - 4 quarts per acre

Leaf rollers, oriental fruit moth, tufted apple budmothCodling moth – for use against low to moderate infestations in conjunction with alternate control measures such as in established mating disruption blocks. It may also be used in a program approach alternated or interspersed with other insecticides targeted at the same pest so long as the re-treatment interval does not exceed the period of effectiveness of the products being alternated and MBI-010 EP is applied before larvae penetrate the fruit. For each generation, apply at the initiation of egg lay [usually occurs at 100 to 200 Day Degrees (DD), base 50, following biofix. Reapply x to x days later.

For best protection, begin applications before egg hatch of each generation and before the larvae penetrate the fruit. Once applied, MBI-010 EP provides 2 – 4 days of protection depending upon application rate and how rapidly fruit is expanding. Consult local spray timing advisories or follow biofix dates based upon pheromone trap catches to time sprays appropriately.

Aphids and mites (suppression)

Application timing: optimal timing for leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. Use a 7-10 day re-treatment schedule to maintain control if the crop is growing rapidly or if there is heavy pest pressure.

## **Pomegranate**

## 2 - 4 quarts per acre

Walnut caterpillar, cankerworm, gypsy moth, variegated leafroller, redbanded leafroller, tufted apple budmoth, fruittree leafroller, oriental fruit moth, cutworm, filbert leafroller, oblique banded leafroller, codling moth, armyworm and twig borer

European red mite, two-spotted red mite, Pacific spider mite, McDaniel spider mite (Suppression)

## Potatoes and Tuberous and Corm Vegetables

Such as: Artichoke, Cassava, Chayote Root, Chinese Artichoke, Garden Beet, Ginger, Jerusalem Artichoke, Potatoes, Sugar Beet, Sweet Potatoes, Tumeric and Yams

### 2 - 4 quarts per acre

Armyworms, artichoke plume moth, European corn borer, loopers

Potato aphid (suppression)

# **Root Vegetables**

Such as: Black Salsify, Carrot, Celeriac, Chicory, Edible Burdock, Ginseng, Horseradish, Parsnip, Radish, Oriental Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Turnip, Turnip-rooted Chervil, and Turnip Rooted Parsley

### 2 – 4 quarts per acre

Armyworms, European corn borer, loopers

Aphids (Suppression)

### Shade and Ornamental Trees and Forests

### 2 - 4 quarts/acre

Gypsy moth, elm spanworm, tent caterpillar, California oakworm, pine butterfly, spruce budworm, saddle prominent caterpillar, Douglas fir tussock moth, western tussock moth, fruitree leafroller, blackheaded budworm, mimosa webworm, jack pine budworm, saddleback caterpillar, greenstriped mapleworm, hemlock looper Mites, aphids, whiteflies and lace bugs (suppression)

# Soybean

## 2 - 4 quarts per acre

Armyworms, corn earworm, green cloverworm, podworm, saltmarsh caterpillar, soybean looper, velvetbean caterpillar

Soybean aphid (suppression)

### Stone Fruits

# Such as: Apricots, Cherry, Nectarine, Peach, Plum, Prune

## 2 - 4 quarts/acre

Green fruitworm, leafrollers (including oblique-banded, fruit tree, pandemic, redbanded, variegated, oriental fruit moth, redhumped caterpillar, tent caterpillar, peach twig borer, plum curculio.

Aphids and mites (suppression)

Application timing: optimal timing for peach twig borer and leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. Use a 7-10 day re-treatment schedule to maintain control if the crop is growing rapidly or if there is heavy pest pressure. Use a 3- to 4-day re-treatment schedule at flowering.

### Strawberry

### 2 - 4 quarts

Armyworms and leafrollers

Aphids and mites (suppression)

### Succulent and Dried Beans and Peas

Such as: Adzuki bean, Blackeyed pea, Chickpea, Cowpea, Crowder Pea, Edible-Pod Pea, English Pea, Fava Bean, Field Bean, Field Pea, Garbonzo Bean, Garden Pea, Green Pea, Kidney Bean, Lentil, Lima Bean, Lupins, Mungbean, Navy Bean, Pidgeon Pea, Pinto Bean, Runner Bean, Snap Bean, Snow Pea, Sugar Snap Pea, Tepary Bean, Wax Bean, Yardlong Bean

# 2 - 4 quarts per acre

Armyworms, corn earworm, European corn borer, loopers

Aphids and mites (suppression)

### **Tobacco**

## 2 - 4 quarts per acre

Hornworm, tobacco budworm, looper

### Tree Farms and Plantations

# Conifers, Including Christmas Trees and Deciduous Trees

## 1 - 4 quarts per acre

Bagworm, fall webworm, gypsy moth, hemlock looper, jackpine budworm, pine tip moth, redhumped caterpillar, spruce budworm, tent caterpillar, tussock moths,

#### **Tree Fruits**

Such as: Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilama, Jaboticaba, Kiwi, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Ti Palm Leaves, Wax Jambu (Wax Apple), White Sapote

## 2-4 quarts per acre

Avocado leafroller, citrus peelminer, cutworms, fruit tree leafroller, omnivorous leafroller, orange tortrix, western tussock moth

### **Tree Nuts and Pistachios**

Such as: Almonds, Cashew, Chestnut, Filbert (Hazelnut), Macadamia Nut, Pecan, Pistachios, Walnut

## 2 – 4 quarts per acre

Fall webworm, filbert worm, hickory shuckworm, navel orange worm, oblique banded leafroller, peach twig borer, pecan nut casebearer, redhumped caterpillar,

### Turf including Turf grown for seed

### 2 - 4 quarts per acre

Armyworm, cutworm, sod webworm

### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in a cool dry place. Avoid freezing.

**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**Container Disposal:** Non-refillable container. Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

ACRC Logo Placeholder

Marrone Bio Innovations is a member of the Ag Container Recycling Council. Visit <a href="http://www.acrecycle.org/contact.html">http://www.acrecycle.org/contact.html</a> for information on how to arrange pick-up of this empty pesticide container.

## **Marrone Bio Innovations**

## WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

# **MBI-206 EP**

# **BIOLOGICAL INSECTICIDE**

(Can Be Used in Organic Production)

OMRI Placeholder

Active Ingredient: Burkholderia sp strain A396 cells Other ingredients: ...... <u>5.54%</u> Total: ...... 100.00%

# KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID			
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15 – 20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
If inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>Call poison control center or doctor for treatment advice.</li> </ul>		
If swallowed	<ul> <li>Call poison control center or doctor immediately for treatment advice,</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>		
lf on skin or clothing	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 – 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		

### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: (pending as File Symbol 84059-X)

**Net Contents: XX** (Batch)(Lot) No: XXXX

Manufactured by:

Marrone Bio Innovations, Inc. 2121 Second St., Suite B-107 Davis, CA 95618 USA

1-877-664-4476; www.marronebioinnovations.com; info@marronebio.com

US Patents No. XXXXX

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Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

**EPA Est. No.:** XXXXX-XX-XXX

<sup>\*</sup>Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

# PRECAUTIONARY STATEMENTS

Hazards to humans and domestic animals - CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

# Personal Protective Equipment (PPE):

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks

Mixer/loaders and applicators, not in aircraft or enclosed cabs, must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow the manufacturer's instructions for cleaning / maintaining PPE. If no instructions are available, use detergent and hot water for washables. Keep and wash PPE separately from other laundry.

# **USER SAFETY RECOMMENDATIONS**

### Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**Environmental Hazards:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

# **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

# **Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water), is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

## **GENERAL INFORMATION**

MBI-206 EP is a biological insecticide containing fermentation solids of *Burkholderia sp.* for use on ornamental plants, turf and edible crops against the pests listed in the Directions for Use section. MBI-206 EP functions primarily as a stomach poison for use in the control or suppression of many foliar feeding pests including caterpillars and foliage feeding coleopteran. MBI-206 also has direct contact activity against many soft-bodied insects such as caterpillars, aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of MBI-206 EP must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional insecticide spraying.

MBI-206 EP can be used in either the field or greenhouse for the control of any labeled pest.

### GENERAL USE INSTRUCTIONS – FOR INSECT CONTROL

MBI-206 EP is a highly selective insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. MBI-206 EP does not have systemic activity. For some crops, directed drop nozzles by ground machine are required.

Under heavy pest populations, use the higher label rates, shorten the spray interval, and/or increase the spray volume to improve coverage.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

Adjuvants may be used to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed crop canopy, dense foliage and penetration into waxy leaf surfaces.

# Mixing directions

Important – Do not add MBI-206 EP to the mix tank before introducing the desired amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-206 EP. Add the desired volume of MBI-206 EP to the mix tank and continue circulation. Maintain circulation while loading and spraying. Do not mix more MBI-206 EP than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

# Tank mixing

Do not combine MBI-206 EP in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily be remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

## **APPLICATION**

Apply MBI-206 EP in ground and aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

# **Row Crop Application**

Use calibrated power-operated ground equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. A minimum of 10 gallons per acre should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, disc core/hollow cone or twin jet flat fan nozzles suitable for insecticide spraying. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition to reduce drift.

## **Orchard Spraying**

- Dilute spray application: This application method is based on the premise that all plant parts are thoroughly wetted, to the point of runoff, with spray solution. To determine the number of gallons of dilute spray per acre, contact your extension specialist, state agricultural experiment station, or certified pest control advisor for assistance.
- Concentrate spray application: This application method is based on the premise that all
  plant parts are uniformly covered with spray solution but not to the point of runoff as with
  a dilute spray. Instead, a lower spray volume is used to deliver the same application
  rate of product per acre as is used for the dilute spray.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

# **AERIAL APPLICATION AND DRIFT REDUCTION ADVISORY INFORMATION**

**General:** Apply in a spray volume of 5 or more gallons per acre on row crops and 10 or more gallons per acre on tree or orchard crops. Insect control by aerial application may be less than control by ground application because of reduced coverage.

**Spray drift**: Avoiding spray drift at the application site is the responsibility of the applicator. The Interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

**Information on droplet size**: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that will provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made Improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

Controlling droplet size: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Number of nozzles - Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**Boom width**: For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3-10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

**Application height**: Do not make application at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that Is safe reduces exposure to droplets to evaporation and wind.

**Swath adjustment:** When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2 - 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature inversions:** Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive areas:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

# **CHEMIGATION USE - DIRECTIONS FOR INSECT CONTROL**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

# Spray preparation

First prepare a suspension of MBI-206 EP in a mix tank. Fill tank ½ to ¾ the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of MBI-206 EP, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of MBI-206 EP into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of MBI-206 EP with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine MBI-206 EP with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. MBI-206 EP has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

# GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in the mix tank during mixing and application to insure a uniform suspension. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume for a more dilute solution per unit time. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation waters.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

SHAKE WELL BEFORE USE

# FOR USE ON THE FOLLOWING CROPS FOR CONTROL OF SPECIFIED INSECTS AND MITES

Pre-harvest Interval (PHI) = 0 days

Crop	Group
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# Alfalfa (hay and seed), Hay and other Forage crops

### 2 – 4 quarts per acre

Alfalfa webworm, alfalfa caterpillar, European skipper, armyworms, plant bug (suppression), aphids (suppression).

### **Asparagus**

# 2-4 quarts per acre

Armyworms

### **Bananas**

# 2 - 4 quarts per acre

Banana skipper

### **Bulbs**

# Such as: Leek, Garlic and onion (bulb and green)

# 2 - 4 quarts per acre

Looper, omnivorous leafroller, hornworm, imported cabbageworm, diamondback moth, green cloverworm, webworm, saltmarsh caterpillar, armyworms, cutworm, cross-striped cabbageworm, *Heliothis*.

### **Bushberries**

Such as: Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Ligonberry, Salal 2 – 4 quarts per acre

Armyworms, cherry fruitworm, cranberry fruitworm, fireworms, leafrollers, loopers, blueberry blossom weevil

## Caneberries

Such as: Blackberry, Loganberry, Red and Black Rasberry, and Cultivars and/or hybrids of these 2 – 4 quarts per acre

Armyworms, green fruitworm, leafrollers, looper, western raspberry fruitworm

#### **Cereal Grains**

Such as: Barley, Buckwheat, Grain Amaranth, Milo, Oats, Pearl Millet, Proso Millet, Rye, Sorghum, Triticale, Wheat

## 2 – 4 quarts per acre

Armyworms, corn earworm (headworm), southwestern corn borer, web worms

### Citrus

# Such as: Grapefruit, Lemons, Limes, Oranges, Tangerines

# 2 – 4 quarts per acre

Fruittree leafroller, orangedog, citrus cutworm

Two-spotted spider mite, Texas citrus mite, citrus red mite, citrus rust mite, six-spotted spider mite (Suppression)

## Cranberry

# 2 - 4 quarts per acre

Armyworms,

leafrollers,

fireworms.

loopers.

sparganothis

fruitworm,

### **Cole Crops**

Such as: Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens, Turnip Greens

## 2 - 4 quarts per acre

Diamondback moth, cabbage looper, imported cabbageworm, cabbage webworm, armyworms

## 4 quarts per acre

Swede midge - suppression

## Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

### 2 – 4 quarts per acre

Armyworm, European corn borer, southwestern corn borer, western bean cutworm, corn earwormCorn leaf aphid (suppression)

### Cotton

## 2 - 4 quarts per acre

European corn borer, cotton bollworm, tobacco budworm, loopers (soybean and cabbage), saltmarsh caterpillar, armyworms

Cotton aphid (suppression)

Lygus (suppression)

# **Cucurbit Vegetables**

Such as: Cucumber, edible gourds, muskmelon (cantaloupe, muskmelon, etc.), pumpkin, watermelon, winter and summer squash

## 2 - 4 quarts per acre

Armyworm, cabbage looper, melonworm, pickleworm, rindworm complex,

Silverleaf whitefly nymphs (suppression)

Aphids (suppression)

# Fig

## 2 - 4 quarts per acre

Navel orangeworm

# Flowers, Bedding Plants and Ornamentals - ground application only

# 2 - 4 quarts per acre

Looper, tobacco budworm, omnivorous looper, omnivorous leafroller, diamondback moth, armyworm, Ello moth, lo moth, oleander moth, azalea caterpillar

Whitefly nymphs (suppression)

Aphids and mites (suppression)

# **Fruiting Vegetables**

## Such as: Tomato, Tomatillo, Pepper, Ground Cherry, Pepino, Okra and Eggplant

## 2 - 4 quarts per acre

Looper, hornworm, tomato fruitworm, variegated cutworm, saltmarsh caterpillar, armyworm, tomato pinworm, European corn borer

Silverleaf whitefly nymphs (suppression)

Aphids and mites (suppression)

Stink bugs (suppression)

Lygus and plant bugs (suppresson)

## Grape

# 2 - 4 quarts per acre

Grape leaf skeletonizer, grape leafroller, omnivorous leafroller, orange tortrix, oblique banded leafroller, grape berry moth

Pacific spider mite, Willamette Spider Mite, two-spotted spider mite (Suppression)

# Herbs, Spices and Mints

Such as: Angelica, balm, basil, borage, burnet, camomile, catnip, chervil, chive, clary, coriander, costmary, cilantro, curry, dillweed, horehound, hyssop, lavender, lemongrass, lovage, marjoram, nasturtium, parsley (dried), peppermint, rosemary, sage, savory (summer and winter), sweet bay, tarragon, thyme, wintergreen, woodruff and wormwood

## 2 - 4 quarts per acre

Looper, saltmarsh caterpillar and armyworm

# **Hops and Dried Cones**

# 2 - 4 quarts per acre

Armyworms, looper

# Leafy Vegetables and Leaves of Root and Tuber and Legume Vegetables

Such as: Arugula, Beets, Celery, Chervil, Cilantro, Corn Salad, Cress, Dandelion, Dock, Edible Chrysanthemum, Endive, Fennel, Garden Peas, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Turnip Greens and Watercress

## 2-4 quarts per acre

Cabbage looper, diamondback moth, armyworms

Aphids (suppression)

# Legume Vegetables

Such as: Bean, Pea, Lentil and Soybean

## 2 - 4 quarts per acre

Looper, soybean looper, green cloverworm, velvetbean caterpillar, armyworm, podworm

Aphids and mites (suppression)

## Oil Crops

Such as: Canola, Safflower, Sunflower (including sunflower grown for seed)

## 2 – 4 quarts per acre

Armyworm, diamondback moth, looper, saltmarsh caterpillar, Heliothis, headworm

### Peanut

# 2-4 quarts per acre

Armyworms, cabbage looper, corn earworm, soybean looper, green cloverworm, European corn borer, podworm, red-necked peanut worm, saltmarsh caterpillar, velvetbean caterpillar

## Pineapple

### 2 - 4 quarts per acre

Gummosos-Batracheda Comosae (Hodges), Thecla-Thecla Basilides (Geyr)

### Pome Fruit

## Such as: Apples, Crabapple, Loquat, Mayhaw, Pears and Quince

### 2 - 4 quarts per acre

Leaf rollers, oriental fruit moth, tufted apple budmothCodling moth – for use against low to moderate infestations in conjunction with alternate control measures such as in established mating disruption blocks. It may also be used in a program approach alternated or interspersed with other insecticides targeted at the same pest so long as the re-treatment interval does not exceed the period of effectiveness of the products being alternated and MBI-010 EP is applied before larvae penetrate the fruit. For each generation, apply at the initiation of egg lay [usually occurs at 100 to 200 Day Degrees (DD), base 50, following biofix. Reapply x to x days later.

For best protection, begin applications before egg hatch of each generation and before the larvae penetrate the fruit. Once applied, MBI-010 EP provides 2 – 4 days of protection depending upon application rate and how rapidly fruit is expanding. Consult local spray timing advisories or follow biofix dates based upon pheromone trap catches to time sprays appropriately.

Aphids and mites (suppression)

Application timing: optimal timing for leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. Use a 7-10 day re-treatment schedule to maintain control if the crop is growing rapidly or if there is heavy pest pressure.

# **Pomegranate**

# 2 – 4 quarts per acre

Walnut caterpillar, cankerworm, gypsy moth, variegated leafroller, redbanded leafroller, tufted apple budmoth, fruittree leafroller, oriental fruit moth, cutworm, filbert leafroller, oblique banded leafroller, codling moth, armyworm and twig borer

European red mite, two-spotted red mite, Pacific spider mite, McDaniel spider mite (Suppression)

## **Potatoes and Tuberous and Corm Vegetables**

Such as: Artichoke, Cassava, Chayote Root, Chinese Artichoke, Garden Beet, Ginger, Jerusalem Artichoke, Potatoes, Sugar Beet, Sweet Potatoes, Tumeric and Yams

### 2 - 4 quarts per acre

Armyworms, artichoke plume moth, European corn borer, loopers

Potato aphid (suppression)

## **Root Vegetables**

Such as: Black Salsify, Carrot, Celeriac, Chicory, Edible Burdock, Ginseng, Horseradish, Parsnip, Radish, Oriental Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Turnip, Turnip-rooted Chervil, and Turnip Rooted Parsley

### 2 - 4 quarts per acre

Armyworms, European corn borer, loopers

Aphids (Suppression)

## **Shade and Ornamental Trees and Forests**

## 2 - 4 quarts/acre

Gypsy moth, elm spanworm, tent caterpillar, California oakworm, pine butterfly, spruce budworm, saddle prominent caterpillar, Douglas fir tussock moth, western tussock moth, fruitree leafroller, blackheaded budworm, mimosa webworm, jack pine budworm, saddleback caterpillar, greenstriped mapleworm, hemlock looper Mites, aphids, whiteflies and lace bugs (suppression)

## Soybean

# 2 - 4 quarts per acre

Armyworms, corn earworm, green cloverworm, podworm, saltmarsh caterpillar, soybean looper, velvetbean caterpillar

Soybean aphid (suppression)

### **Stone Fruits**

## Such as: Apricots, Cherry, Nectarine, Peach, Plum, Prune

# 2 - 4 quarts/acre

Green fruitworm, leafrollers (including oblique-banded, fruit tree, pandemic, redbanded, variegated, oriental fruit moth, redhumped caterpillar, tent caterpillar, peach twig borer, plum curculio.

Aphids and mites (suppression)

Application timing: optimal timing for peach twig borer and leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. Use a 7-10 day re-treatment schedule to maintain control if the crop is growing rapidly or if there is heavy pest pressure. Use a 3- to 4-day re-treatment schedule at flowering.

# Strawberry

### 2 - 4 quarts

Armyworms and leafrollers

Aphids and mites (suppression)

### Succulent and Dried Beans and Peas

Such as: Adzuki bean, Blackeyed pea, Chickpea, Cowpea, Crowder Pea, Edible-Pod Pea, English Pea, Fava Bean, Field Bean, Field Pea, Garbonzo Bean, Garden Pea, Green Pea, Kidney Bean, Lentil, Lima Bean, Lupins, Mungbean, Navy Bean, Pidgeon Pea, Pinto Bean, Runner Bean, Snap Bean, Snow Pea, Sugar Snap Pea, Tepary Bean, Wax Bean, Yardlong Bean

## 2 - 4 quarts per acre

Armyworms, corn earworm, European corn borer, loopers

Aphids and mites (suppression)

### Tobacco

## 2 - 4 quarts per acre

Hornworm, tobacco budworm, looper

## Tree Farms and Plantations

# Conifers, Including Christmas Trees and Deciduous Trees

## 1 - 4 quarts per acre

Bagworm, fall webworm, gypsy moth, hemlock looper, jackpine budworm, pine tip moth, redhumped caterpillar, spruce budworm, tent caterpillar, tussock moths,

### **Tree Fruits**

Such as: Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilama, Jaboticaba, Kiwi, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Ti Palm Leaves, Wax Jambu (Wax Apple), White Sapote

## 2-4 quarts per acre

Avocado leafroller, citrus peelminer, cutworms, fruit tree leafroller, omnivorous leafroller, orange tortrix, western tussock moth

### **Tree Nuts and Pistachios**

Such as: Almonds, Cashew, Chestnut, Filbert (Hazelnut), Macadamia Nut, Pecan, Pistachios, Walnut

## 2 – 4 quarts per acre

Fall webworm, filbert worm, hickory shuckworm, navel orange worm, oblique banded leafroller, peach twig borer, pecan nut casebearer, redhumped caterpillar,

### Turf including Turf grown for seed

## 2 - 4 quarts per acre

Armyworm, cutworm, sod webworm

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in a cool dry place. Avoid freezing.

**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**Container Disposal:** Non-refillable container. Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

ACRC Logo Placeholder

Marrone Bio Innovations is a member of the Ag Container Recycling Council. Visit <a href="http://www.acrecycle.org/contact.html">http://www.acrecycle.org/contact.html</a> for information on how to arrange pick-up of this empty pesticide container.

# **Marrone Bio Innovations**

## WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

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# CONFIDENTIAL STATEMENT OF FORMULA ENCLOSED

DATE	SUBMITTED BY (V)			
SUBMITTED	APPLICANT	BASIC SUPPLIER		
AUG 3 0 2010				

Do Not Write Comments,
Formula, or Parts of Formula
on This Envelope

# NOTE

It shall be unlawful—for any person to use for his own advantage or to reveal, other than to the Secretary, or officials or employees of the United States Department of Agriculture or other Federal agencies, or to the courts in response to a subpoena, or to physicians, and in emergencies to pharmacists and other qualified persons, for use in the preparation of antidotes, in accordance with such directions as the Secretary may prescribe, any information relative to formulas of products acquired by authority of Section 4 of the "Federal Insecticide, Fungicide, and Rodenticide Act."

